ALASKA DEPARTMENT OF FISH AND GAME DIVISION OF COMMERCIAL FISHERIES

PRINCE WILLIAM SOUND AREA ANNUAL FINFISH MANAGEMENT REPORT



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PRINCE WILLIAM SOUND SALMON FISHERIES

The Prince William Sound commercial salmon management area encompasses all coastal waters and inland drainages entering the northcentral Gulf of Alaska between Cape Suckling and Cape Fairfield (Figure 1). The area includes the Bering River, Copper River and all of Prince William Sound along with a total adjacent land area of approximately 38,000 square miles.

The Prince William Sound area consists of eleven management districts which correspond to the local geography and distribution of the five species of salmon harvested by the commercial fishery. The management objective for all districts is the achievement of desired escapement goals for major species while at the same time allowing for the orderly harvest of all fish surplus to spawning requirements.

Legal gear for the salmon fishery includes purse seines and both drift and set gill nets. Drift gill net fishermen are the most numerous and are permitted to fish in the Bering River, Copper River, Coghill, Unakwik and Eshamy districts. During the 1987 season, 520 drift gill net permit holders participated at least some time during the season. Set gill net gear is legal only in the Eshamy district and with a limited opening of only the Main Bay sections, 21 set gill net fishermen participated in the fishery this season. Purse seine gear is legal in the Eastern, Northern, Unakwik, Coghill, Northwestern, Southwestern, Montague and Southeastern districts. An estimated 260 permits were active during the 1987 season.

Overview of the 1987 Salmon Season:

The Prince William Sound Area combined commercial salmon harvest for 1987 amounted to a new record catch of 33.1 million fish (Table 1). This figure is nearly double the 1986 harvest figure and exceeds the previous record by over 7.6 million fish (Table 3, Figure 5). New harvest records were set for Copper River sockeye, (1.18 million) and P.W.S. pink salmon (26.1 million), and the area chum catch (1.86 million) is only slightly below the historic high. Coho salmon are the only species that failed to perform up to expectations. This year's harvest of 141,000 coho ranks as the lowest since 1975.

Hatchery production from the six hatcheries in the management area, contributed to a significant proportion of this year's catch, making this truly "the year of the hatchery" for Prince William Sound. Although amounting to a small percentage of the over all catch, contributions from the Gulkana facility on the Copper River were likely responsible for elevating the Copper River commercial sockeye catch to a new record high. The Main Bay and Esther hatcheries made a significant contribution to the harvest of early chums in the Sound. The most significant contribution, however, came from the Solomon Gulch, Cannery Creek, Esther and Armin F. Koernig hatcheries, which collectively may have contributed more than 53% of the commercial harvest of pink salmon. In addition, nearly 3 million pink

salmon were harvested by PNP facilities to offset operational costs (Table 34).

With the exception of sockeye and coho systems on the Copper and Bering River delta, escapement objectives were met for all districts and all species. All hatcheries met or exceeded preseason sales harvest and egg take goals.

The value of the combined commercial salmon harvest is estimated at a record \$66.7 million (Table 2.), exceeding the prior record by nearly \$20 million. Prices over all were exceptionally high and average fish weights were above normal which contributed to outstanding seasons for all gear types. The drift gill net catch is valued at \$25.1 million, setting the average earnings for the 516 permit holders at \$48,600.00. Seiners harvested \$41.3 million worth of fish setting the average earnings for the 260 permit fleet at \$159,000.00. By comparison to recent years, set netters also enjoyed an exceptional season, with a catch valued at \$329,000 and an average earnings for the 16 fishermen of \$20,000.

Copper River District

The 1987 return of sockeye salmon to the Copper River District forecasted to be above the recent ten year average while the chinook and coho salmon returns were expected to be average (Table 49). The early portion of the fishery targets on sockeye salmon with significant incidental catches of chinook salmon. Sockeye salmon destined for upper Copper River (upriver) spawning areas are monitored by sonar at Miles Lake while those stocks returning to Copper River delta (delta) systems are monitored by aerial survey. Sockeye salmon passing the Miles Lake sonar are exposed to subsistence and personal use fisheries occurring Chitna and along the upper river. The Gulkana River sockeye salmon enhancement facility at Paxson Lake contributes to upriver returns through the fishery. Chinook salmon returns to upriver spawning systems are monitored by aerial survey. Coho salmon returns to delta spawning systems occur well after the peak of sockeye and chinook returns and are also monitored by aerial survey.

The pre-season forecast for the sockeye salmon fishery indicated an above average harvest of between 800,000 - 1,100,000 with a point estimate of 940,000 harvestable fish (Table 49). This harvest includes an expected 60,000 sockeye salmon produced by the Gulkana River hatchery. The minimum desired escapement past Miles Lake sonar, which included allocations for upriver personal and subsistence fisheries and brood stock for the Gulkana River hatchery, was 450,600 fish. With a strong pre-season forecast a strategy of two fishing periods per week was anticipated. The initial management plan was for a 24 hour opener on May 13th and, if catches warranted, two evenly spaced fishing periods per week. First period catches are used to assess early season run strength on the basis of anticipated versus actual catches (Table 5). Projected harvests are allocated to statistical week based on historical weekly performance of the commercial fishery. The duration and timing of subsequent openers are based on catches

and catch per unit effort data, observed versus desired escapement and peripheral factors which might affect escapement trends such as weather and water level in the Copper River.

Chinook salmon returns to the Copper River District were expected to yield a harvest of 32,000 fish. Traditionally, chinook salmon catches have been incidental to sockeye salmon catches; however, increasing numbers of fishermen have selected to use larger mesh gillnets to target on this species during the first part of the season. As a result, in 1987 the Board of Fisheries provided management authority to regulate gillnet mesh size in the Copper River District. Like sockeye salmon, chinook salmon management is based on projected harvests allocated by week compared to actual weekly harvests (Figure 7). Escapements are monitored by aerial survey and their status is not known until after the peak of the fishing season. Although the fishery is managed primarily for sockeye salmon the catches of chinook salmon were monitored closely in 1987 and were integral in managing the first weeks of the fishery.

The Miles Lake sonar station began operation on May 20th, following breakup of the Copper River and prior to any significant salmon passage. The fifty mile distance between the commercial fishery and the sonar counters at Miles Lake require 7 to 9 days travel time for sockeye salmon. This time lag between the commercial fishery and assessment of escapement dictates that the first few weeks of the fishery be managed solely on the basis of expected versus actual catch trends. When time series analysis of escapement past Miles Lake becomes available sockeye salmon management is based on a combination of commercial fishery performance and meeting inseason escapement objectives.

Sockeye and Chinook Salmon Management:

The commercial fishing season opened on May 13th for a 24 hour period (Table 6). The harvest for this period was 11,371 sockeye and 4,267 king salmon with 391 permits reporting landings. The sockeye salmon harvest fell below expectations for the week, while the chinook salmon harvest was well above pre-season expectations. Given the strong forecast, a second 24 hour period was scheduled for Monday, May 18th to harvest the anticipated sockeye salmon build up over the four day closure.

The harvest for the May 18th fishing period was 65,695 sockeye salmon and 5,801 chinook salmon. The cumulative catch of 77,066 sockeye salmon indicated that the run was progressing as expected and the third period, a 24 hour opener, was scheduled for Thursday, May 21st (Table 5 and Figure 6). The chinook salmon cumulative harvest of 10,068 fish for the first two periods represented approximately 32 percent of the pre-season forecasted catch. Based on the historical run timing curve for Copper River chinook salmon, only 15 percent of the catch is taken by this date. Additionally, a dock side survey revealed that 15 percent of the fleet were focusing their efforts on chinook salmon by using large mesh gillnets. As a conservation measure to insure adequate escapement a six inch or less mesh restriction was imposed on May 21st until further notice.

Sockeye salmon catches on May 21st continued to indicate a strong run, as forecast. The period catch of 116,773 brought the cumulative to 193,839 which was 30,232 more than expected by the end of this week. Miles Lake sonar became operational on May 22nd and the cumulative count through May 23rd was 2,417 fish (Table 7, Figure 8) . Daily sonar passage rates were of expected at this time in the run. Chinook salmon catches the magnitude dropped to 3,838 for the period although the effort (438 boats) remained about the same indicating that the mesh restriction had the desired effect. The strategy of two evenly spaced fishing periods accomplishing management objectives for escapement and harvest; therefore, it was continued into the third week. The fourth period was a 24 hour opener on May 25th. The sockeye catch of 91,423 for this period was a decline from last period although it was still exceptional considering the adverse weather which prevented many boats from fishing effectively for the entire 24 hour period. The sonar count at Miles Lake was progressing as anticipated indicating adequate escapement to upriver spawning locations. The strategy of two 24 hour periods per week was continued through the end of May.

Daily sockeye salmon escapements past Miles Lake sonar quickly built and from May 23rd through June 4th, counts consistently surpassed daily expectations. On June 4th the cumulative sonar count had reached 158,702 fish, nearly 60,000 above the anticipated count for this date (Table 7 and Figure 8). The combination of favorable escapement trends and higher than anticipated commercial catches dictated a more liberal fishing schedule. During the 4th week of the fishery (May 31 - June 6th) the amount of weekly fishing time was increased from two 24 hour periods to one 48 hour period and one 36 hour period. The catch of 265,775 sockeye salmon for this week was almost twice the catch anticipated still indicating exceptional run strength. The Miles Lake cumulative sonar count stood at 173,986 on June 6th, nearly 40,000 more than expected.

In the fifth week, sockeye salmon catches remained high for the first 36 hour period at 105,200 fish; however, the daily counts at Miles Lake began to drop below expected values. On June 13th the escapement count of 227,335 fish was only 5,083 above the anticipated count and by June 15th the counts were behind the expected schedule for that date (Table 7 and Figure 8). This decline in escapement counts may have been attributable to the aggressive strategy of fishing 48 and 36 hour periods per week. To keep escapements at desired levels the next two periods (June 11th and June 15th) were scheduled for 24 hours each.

After period ten (June 15th) the cumulative commercial harvest of sockeye and chinook salmon were 948,640 and 39,004 fish, respectively. The escapement counts at Miles Lake continued to lag and from June 5th through June 16th daily counts were on the average 40 percent below the minimum desired level. The cumulative sonar count on June 16th was 246,389 fish, about 3,000 less than expected. Since the entry timing for upriver spawning stocks is somewhat discrete, low escapement levels for long periods of time may impact the upriver spawning distribution (Merritt and Roberson, 1986). To insure adequate escapement to all spawning locations fishing was reduced

to only one 24 hour period in the week of June 15th.

On June 22nd the Copper River District was opened for a 36 hour period (period number 11). The sockeye salmon catch for this period was 78,013 fish, about 8,000 more than anticipated. The effort dropped dramatically from 409 boats the previous period to 294 for this period, reflecting re-distribution of the fleet for the Coghill District opening. Through June 23rd Miles Lake escapement counts continued to fall behind expected levels. Additionally, surveys of east side delta stocks revealed only 1,400 sockeye in Martin River Slough indicative of poor escapement or late arrival to spawning areas. In an effort to improve escapement trends there was only one period (June 22nd) during the seventh week of the fishery.

Beginning July 2nd, fishing was allowed for two 24 hour periods per week except on July 20th, 27th and August 4th when fishing was allowed for 36 hours (Appendix E). This schedule allowed harvest of surplus upriver stocks and provided adequate closure time for the escapement of delta stocks.

The season total catch of sockeye salmon was 1,181,205 fish which was above the 800,000 - 1,100,000 projected catch (Table 6). The catch was the largest in recent years and, in fact, was the largest on record since 1919 (Table 4). Catches were exceptionally strong the middle and end of May and continued to show strength through the end of June. The peak weekly catch of 304,240 sockeye salmon occurred during the week of May 31 - June 6 (Table 5 and Figure 6).

The estimated total escapement past the Miles Lake sonar site was 483,478 fish which was approximately 33,000 fish above the minimum desired escapement goal (Figures 8 and 9). Preliminary harvest estimates for the upriver personal use and subsistence fisheries, based on permit returns, were 46,115 fish in the personal use dipnet fishery at Chitna and 35,035 fish in the subsistence fishery (Table 48). Therefore, the total spawning escapement past Miles Lake sonar was 402,328 fish. Aerial surveys of upriver index streams revealed good distribution of spawners. The total index count of 54,540 sockeye salmon was about 1,000 less than the ten year average (Table 10). The aerial surveys of the delta index streams revealed an extremely poor 1987 escapement, particularly for east side systems (Table 8). The total index count of 60,698 sockeye salmon represented only 51 percent of the ten year average (Figure 9).

The total chinook harvest of 41,005 fish was well above the projected catch of 32,000 fish (Table 6, Figures 7 and 10). Exceptionally strong catches of chinook in early May necessitated implementing gillnet mesh size restrictions as a conservation measure. Aerial surveys of chinook salmon index streams indicated that this action was warranted. The total escapement to index streams was 2,807 fish, about 100 fish more than the recent ten year average (Table 11 and Figure 10). If selective fishing of chinook salmon with large mesh gillnets continued it was very probable that overexploitation of the population would have resulted. Area management staff feel that emergency order authority to regulate gillnet mesh size served the desired function insuring escapement objectives were achieved while allowing harvest of surplus sockeye salmon.

Coho Salmon Management:

The coho salmon season in the Copper River District normally starts on August 10th, with a change to a Monday to Thursday fishing schedule. In the interest of improved enforcement and a more conservative opening time, the regulatory schedule was modified to a 72 hour period with a 12:00 noon Monday opening time.

The pre-season informal forecast projected a harvest of 350,000 coho salmon (Table 53). Initial catches the week of August 10th were poor and after the first two 72 hour periods the cumulative catch of 87,664 coho salmon was less than 50 percent of anticipated for that date (Table 6 and Figure 11). The effort increased from 226 boats in the first period to 286 boats in the second period. Aerial surveys revealed only trace counts of coho salmon on spawning grounds. During the week of August 24th fishing time was reduced to 48 hours. The effort for this week increased to 320 boats, however, catches dropped from 42,577 fish the week of August 17th to 39,799 fish the week of August 24th. Aerial surveys for the week revealed only 11 percent desired escapement on the spawning grounds (Table 10). The fishery was closed at this point for the duration of the season. The total catch for the Copper River District was 127,463 coho salmon, ranking as the poorest catch since 1975 (Table 4 and Figure 12).

Aerial surveys of coho salmon spawning areas on the Delta revealed an escapement index of 26,465 fish (Table 9 and Figure 12). This escapement level represents only 47 percent of the recent eight year average although it was about 800 fish more than the 1986 escapement index.

Bering River District:

The forecasted harvest for the Bering River District in 1987 was 20 - 30 thousand sockeye salmon and 100 - 150 thousand coho salmon (Table 49). The Bering River fishing periods typically coincide with those in the Copper River District. Management of sockeye and coho salmon in this district is primarily based on assessment of spawning escapement by aerial survey.

The Bering River District first opened for sockeye salmon June 15th and 16th for a 24 hour period (Table 15). Eight boats landed a total of 2,013 sockeye salmon for this period. The second sockeye salmon opener, a 36 hour period on June 22nd and 23rd, was the season peak in terms of both effort and catch with 19 boats landing 13,607 sockeye salmon. Effort and catches declined until the beginning of the coho salmon season. The total season catch of sockeye salmon in the Bering River District was 16,926 fish about 15 percent below the minimum forecast figure of 20,000 (Table 15). Aerial surveys revealed an average sockeye salmon escapement index of 26,525 fish (Table 8 and Figure 13). This level of escapement represents 87 percent of the recent three year average.

Coho salmon management began the week of August 9th - 15th when a 72 hour

opener was scheduled. The catch for this period was 315 coho salmon (Table 15). The second period was a 72 hour opener from August 17th - 20th in which 5,023 coho salmon were caught. This represented only 37 percent of the anticipated 13,552 fish catch for this weekly period (Table 15 and Figure 14). The following week the effort and catch increased to 88 boats and 10,407 fish, respectively. The low commercial catch of 16,926 coho salmon, 25 percent of expected, and equally low escapement counts of Bering River District spawning areas resulted in the season closure of the coho salmon fishery on August 26th (Table 16). Continued escapement surveys revealed no improvement and the season final escapement index of 5,585 coho salmon was the worst since 1981 and only 25 percent of the recent eight year average (Figure 15).

Coghill and Unakwik Districts

The sockeye salmon return to the Coghill District was forecasted to produce an above average harvest of 370,000 fish (Table 49). Parent year escapement for the dominant age class, five year old fish, was the largest in 20 years (Table 21). Although the parent year escapement for the four year old component of the return was weak the overall 1987 projection was for a strong return. The Coghill District sockeye salmon escapement is monitored by a weir located on the Coghill River. The escapement goal was increased in 1987 to accommodate brood stock requirements at Main Bay hatchery. The escapement range was set at 40,000 to 60,000 sockeye salmon with 50,000 being the optimum escapement level. The salmon weir was installed and operational on June 10th, however, no significant salmon passage occurred until June 21st (Table 22 and Figure 17).

In anticipation of a strong run, the Coghill and Unakwik districts were opened for regular Monday through Thursday weekly fishing periods on June 15th (Appendix E). The catch for the week was 8,249 sockeye salmon, considerably less than the projected harvest of 23,134 (Table 19 and Figure 16). The second weekly fishing period produced a harvest of 41,737 fish bringing the cumulative catch to 49,986 sockeye salmon. This cumulative was still less than anticipated representing only 37 percent of the projected harvest and coupled with an escapement level that was only 15 percent of expected the third weekly fishing period (June 29th - July 1st) was reduced to 63 hours. As a further conservation measure the marker change at Coghill River was delayed indefinitely.

The total sockeye salmon harvest for the week of June 28th to July 4th was 75,724 fish bringing the cumulative to 125,710, only 51 percent of anticipated. Sockeye salmon escapements continued to lag behind expected values. On July 4th the cumulative escapement stood at 7,756 fish just 21 percent of expected for that date (Figure 16). Because no improvement was observed in either catches or escapement passage rates, fishing time was reduced to 24 hours the week of July 6th. This opening was restricted to the Esther secondary terminal harvest area to protect migrating sockeye salmon in Port Wells. The purpose of the opening was to target on chum salmon returning to the Esther hatchery. At the close of period, the cumulative sockeye catch was 157,836 fish, less than 50 percent of

expected. The cumulative escapement count at the Coghill weir was 10,006 fish on July 7th, representing only 25 percent of the desired count. At this time 75 percent of the escapement is normally past the weir, and it appeared unlikely that the minimum goal of 40,000 would be reached and the district was closed indefinitely.

On July 11th, escapement trends at the Coghill weir changed dramatically. The daily sockeye salmon escapement rate went from 4,847 on July 10th to 20,268 on July 11th with an estimated 40,000 fish holding in the river below the weir (Table 22). An announcement was made reopening the Coghill District at noon July 13th within an hour of receiving the new escapement data. From July 12th through July 14th 117,744 sockeye salmon passed the weir. Since escapement objectives were reached, the normal closed waters at the mouth of the Coghill River were opened to fishing. The week ending July 18th saw 355 gillnet permits reporting 1,806 landings and 99 purse seine permits reporting 151 landings (Thompson, 1987). The combined gear sockeye salmon harvest total for the week was 179,443 fish.

During the following two weeks of there was a respective harvest of 49,111 and 23,009 sockeye salmon bringing the cumulative to 409,399 fish. The final season harvest of sockeye salmon for both gear types was 416,353 fish, the second largest catch on record and well within the predicted harvest range of 270,000 - 470,000 (Table 20 and Figure 18). The season total escapement past the Coghill weir was 187,263 fish, the largest escapement in the recent 20 years (Table 21) . The run timing in 1987 was very atypical. Sockeye salmon held in Port Wells off Golden and Avery for an extended length of time and entered the Coghill River in a very small window of time. Future management of this fishery may benefit from the on site presence of staff during critical time periods to make timely management decisions.

The combined gear harvest of 1,578,568 pink salmon in the Coghill District exceeded the pre-season forecast of 500,000 to 1,000,000 (Table 20 and 49). Pink salmon escapement to the Coghill District was 147,060 fish, well within the desired range of 125,000 - 175,000 fish (Table 38). The total chum salmon catch for both gear types was 378,094, near the upper end of a 200,000 to 400,000 predicted harvest (Table 19 and 49). The chum salmon escapement of 24,510 fish did not meet the minimum desired escapement goal of 49,000 (Table 40).

The final season catch for both gear types in the Unakwik District was 6,040 sockeye salmon, 192,623 pink salmon and 7,905 chum salmon (Table 24 and 25). The exceptionally large harvest of pink salmon can be attributed to interception of Cannery Creek hatchery returns. No aerial surveys were conducted for spawning areas in the Unakwik District.

Eshamy District:

This was the first year that a surplus of hatchery produced chum salmon were returning to Main Bay. It was anticipated that 20,000 chums would be available for commercial harvest in the district and in anticipation of a

sex ratio shift similar to pinks the harvest was planned on the early fish that presumably would be predominately males.

The district was opened on June 15 when the first chums were seen in front of the hatchery. The Crafton Island subdistrict was open for the first four days corresponding to the openings at Coghill and Unakwik. After this time it was closed while the Main Bay subdistrict remained open to 7 day per week fishing. Sex ratios in the commercial catch proved not to be good indicator of run timing and the district was managed based on the timing of last years broodstock. On July 5th with a harvest of 45,000 chums (Table 27), the district was closed and the remaining fish were utilized by the hatchery for brood stock. Over 80 million chum eggs were taken by PWSAG for transfer to the Esther hatchery. As the Main Bay facility has now been changed to a sockeye hatchery, this was the last chum egg take at this site.

The Eshamy district remained closed through July 24th, at which time the chum egg take goal was assured. The outer portion of the Main Bay subdistrict was opened for harvest of pinks returning to the hatchery. After July 29 the Main Bay subdistrict was opened to continuous fishing through the close of the season, September 11. The pink harvest amounted to approximately 90,000 fish.

Due to the week parent year escapement, no openings of the district were targeted for sockeyes. The Eshamy weir was not operated this year. Without a program to enumerate sockeye escapements into Eshamy Lake, management policies for the Eshamy District need to be developed in light of the changes generated by hatchery production in the area.

General Purse Seine Districts:

The outlook for the general purse seine fishery was for a catch between 11 and 18 million pink salmon and 800,000 to 1.2 million chum salmon. Wild harvest production was anticipated to account for 42% of the pink salmon harvest. Due to good brood year escapement throughout the Sound, harvestable surpluses were anticipated in all districts. The 1986 pink salmon fry release of 288 million (Table 36), from the Sound's hatcheries set a new record. Based on mean marine survival rates, the production from these fry was anticipated to exceed natural production. The wildstock component of the chum salmon was forecast to provide 89% of the harvest, with an exceptionally strong showing of four year old fish. Supplemental chum production was a result of returns to the Main Bay and Esther hatcheries.

Aerial surveillance of the early buildup of pink and chum salmon began on June 12. The early surveys revealed an exceptionally strong show of chum salmon in the Eastern district but only an average showing of pink salmon. Hatchery returns of pink salmon were reported by the Solomon Gulch Hatchery staff in early June and sales harvesting commenced on June 15th. Daily catches at the hatchery increased geometrically and by June 21st exceeded 170,000 fish. At this time a total of 443,000 fish had been harvested by the hatchery representing 33% of their season's revenue goal, which was significantly ahead of schedule. The season opening of the Eastern District

was scheduled for June 25, and in light of the exceptionally strong hatchery return, the Valdez Narrows Subdistrict was opened. The catch for this 39 hour opening amounted to 930,000 pinks and 106,000 chums. The majority of the pink catches came out of the Valdez Arm and are attributed to hatchery production, while the wild stock chum production came from throughout the remainder of the district.

During the first three weeks of July, pink salmon production from the Solomon Gulch Hatchery dominated the commercial catches. Chum catches out of the Eastern and Northern districts were exceptionally strong while wild stock pink catches were slowly building at about forecast levels. Openers were restricted to no more than three days per week to insure wild stock escapements. Three special openings were scheduled in the SHA in front of the hatchery (Figure 2) to harvest surplus hatchery fish. The first opening was scheduled on July 6th and lasted six hours. A total of 160 boats participated in the opening and harvested 544,000 pinks. Subsequent openings of the SHA occurred on July 10 and July 21 and yielded harvests of 150,000 and 93,000 pinks respectively. Rammings and disorderly conduct of the fishing boats along the Allison Point boundary were reported by Fish and Wildlife Protection officers. In spite of attempts to protect wild stocks in Valdez Arm, the concentration of effort and the resultant high harvest rates resulted in over exploitation of early wild stocks. As a result a three week closure of Valdez Arm was required later in the season to recover escapement.

The Solomon Gulch hatchery meet its published sales harvest goal of \$1.194 million on July 3rd. However in light of the exceptional return and the need for additional funds to meet unanticipated cost overruns, the sales goal was increased by \$100,000 in season through an amendment to the annual plan. At season's end the hatchery had more than sufficient broodstock on hand and ended up taking 163 million eggs, exceeding permitted levels.

The late July to early August portion of the fishery constitutes the peak of the wild stock production and historically corresponds to the period of peak catches for the fishery. However due to the exceptional contribution to the catch from hatchery production during the first two weeks of the fishery, catches through July 17th declined (Figure 5). Surplus wild fish were available through out the sound which justified fishing in all districts the following week, however continuation of the three day per week fishing schedule was necessary to insure meeting escapement objectives.

Weekly catches through the end of July increased, with a building wild stock component and the addition of contributions from the four hatcheries with late pink stocks (Armin F.Koernig, Esther, Cannery Creek and Main Bay). By mid August hatchery contributions again dominated the catch. The peak catch for the season occurred the week of August 11 and amounted to 5.6 million pinks.

Through a cooperative agreement between ADF&G and PWSAC, the Cannery Creek hatchery was jointly operated in 1987. A sales harvest, administrated by PWSAC was planned with a revenue goal of \$150,900. The contracted seiner started harvesting in late July, however run entry was significantly behind

anticipated levels. Hatchery management areas 3 and 4 (Figure 4) were closed to protect returning adults, however sales harvest rates and sex ratio trends did not improve. The last harvest occurred on August 3, bringing the total to 41,000 fish, and with concern for meeting broodstock requirements, the sales harvest was terminated. By mid August run entry rates improved, assuring brood stock requirements, and the area 3 and area 4 closures were lifted. On August 19 the secondary terminal harvest was opened to the commercial fleet to harvest surplus brood fish. A total of 108 million eggs were taken for the hatchery (Table 36).

Adult returns to the Esther and Armin F. Koernig (AFK) hatcheries were both tracking above expectations. An unanticipated buildup of fish in the Esther SHA allowed for the harvest of 306,000 fish to offset the PWSAC corporate revenue goal from fish sales. Sales harvesting at AFK was well ahead of schedule, and the sales goal was exceeded on August 12. As with Solomon Gulch, a mid-season plan amendment was adopted allowing PWSAC to increase their published revenue goal. With sales objectives met, special commercial openings of the Port San Juan subdistrict and the Esther secondary terminal harvest area were scheduled through the weekend to target harvests on surplus hatchery fish.

Both hatchery and wildstock escapement goals were well on track by August 14 and a five day per week fishing schedule was established through the balance of August for all seine districts. The fishery was extended through the first two weeks of September and closed for the season on September 11. The final seine catch amounted to 25.4 million pink and 1.53 million chum salmon.

The aerial escapement indices for wildstock pink and chum salmon amounted to 1,462,000 and 319,000 respectively. The pink salmon index falls within the upper end of the desired range (1.178 to 1.522 million). Escapements fell below desired levels in the Northern and Northwestern districts (Table 37), but were within or above the desired range for all other districts. The chum salmon index is significantly above the acceptable range. Only the Coghill and Southwestern districts performed below expectations.

Hatchery Management:

Hatchery production in Prince William Sound has built to the point that it now plays a controlling part in the management of the fisheries. During the 1987 season 10 special openings were scheduled to harvest surplus hatchery buildups. In addition, special closures were also established in front of Main Bay, Esther and Cannery Creek to protect returning fish for brood stock and sales harvesting. In total over 600 million pink salmon eggs were taken for incubation in P.W.S. hatcheries this winter. Evaluation of hatchery returns is an ongoing challenge. An extensive research program was mounted in 1987 to recovery CWT marked fish in the commercial harvest. In addition to sockeyes from the Gulkana Hatchery on the Copper River, 200,000 tags were applied each to fry releases from Esther, AFK and Cannery Creek. The recovery effort for the returning marked adults, was funded cooperatively by ADF&G and PWSAC. The results of this study have provided an insight into

temporal and spatial distribution of hatchery returns as well as an estimation of the hatchery contribution to the common property fisheries (Peltz, 1988).

PRINCE WILLIAM SOUND AND COPPER RIVER SUBSISTENCE FISHERIES

Subsistence and personal use fisheries harvests are relatively minor by comparison to the commercial harvest in the Prince William Sound management area. The largest subsistence and personal use fisheries occur on the upper Copper River at and above Wood Canyon. In the commercial fishing districts of Prince William Sound and the Copper River delta, commercial fishermen may withhold a portion of their catch for personal use. Their is currently no mechanism to monitor this catch thus it continues to go unreported. Subsistence fishing permits are issued from the Cordova office for both the Copper River flats and Prince William Sound. A breakdown of these catches are reported in Tables 45, 46 and 47.

Upper Copper River Subsistence and Personal Use Fisheries:

Subsistence Fishery

The 1987 Copper River salmon return was anticipated to be ample to allow unrestricted fishing for the subsistence fish wheel and dip net fishery. Sonar counts in May indicated near normal entry of salmon into the Copper River with sufficient strength to meet upriver escapement and subsistence fishery needs. The fish wheel and dip net fishery was opened June 1 to seven day per week fishing. Throughout most of the subsistence fishing season, sonar counts at Miles Lake tracked along anticipated performance curves indicating that the minimum escapement goal of 450,000 salmon would be reached. The subsistence season went without change as it related to sockeye salmon, for the remainder of the season. There were 59 dip net and 372 fishwheel permits issued and the resultant harvest is estimated at 35,000 fish (Table 48), composed primarily of sockeye (97%).

Batzulnetas Subsistence Fishery:

In 1987, an interim subsistence fishery was provided for by Emergency Regulation at Batzulnetas in order to achieve settlement in the United State's District Court case John v. Alaska, 85-698 Civil. The fishery was conducted near the mouth of and within Tanada Creek near the historical village site of Batzulnetas. Eight permits were issued to individuals or family groups from Mentasta or Dot Lake and the fishery was conducted during July and early August. Three and one half days per week were allowed for fishing with a weekly harvest limit and a season quota of 1,000 fish. A total of 22 sockeye salmon were reported taken in the fishery.

Personal Use Fishery:

The 60,000 salmon guideline harvest for the personal use dip net and fish wheel fishery are broken into weekly guidelines. Anticipating weekly periods of two to three days or less early in the season to comply with guideline harvest levels, in contrast to seven day per week fishing in past years, the Department undertook an extensive public information effort incorporating frequent news releases and dedicated phone lines with recorded messages in Glennallen, Fairbanks and Anchorage.

A total of 4,186 dip net and 73 fish wheel personal use permits were issued in 1987. The estimated harvest for the season was 46,115 fish, primarily sockeye (Table 48). Harvest reports indicated that 99% of the catch was taken by dip net gear. The combined upper river personal use and subsistence catch of 81,150 fish ranks as the largest since 1983.

PRINCE WILLIAM SOUND HERRING FISHERIES

Introduction:

Although there are several small spawning stocks in the Prince William Sound, the spring roe fisheries target on what is considered to be a single stock that spawns during the mid-April to early May period. All fisheries are managed for a sliding scale exploitation rate of 0 - 20% overall. Production was anticipated to be dominated by six and seven year old fish from the 1980 and 1981 brood years. Based on a stock recruitment model, the anticipated biomass for the 1987 season was 30,000 to 40,000 tons. Under the current management plan this stock size falls below the minimum necessary to allow full exploitation to regulatory quota levels. As a result of the harvest guidelines the spring fisheries were reduced by approximately 20%. With the exception of the sac roe gill net fishery, preseason management objectives were met in all fisheries. A summary of harvests for the 1987 herring season in presented in Table 50, Figure 24. A detailed narrative of each fishery follows.

Sac Roe Seine Fishery:

The purse seine fleet was placed on 48 hour advance notice on April 1st in accordance with previous practice. Adverse weather conditions precluded daily surveys in late March and early April. Following two days of unsurveyable weather conditions, a significant buildup of fish was detected in the Fairmount Bay area on April 6. Approximately 3500 tons were observed in a general area including Wells, Cedar, Granite and Farimount Bays. Light spawn was present near the Fairmount cannery. As this buildup was in the same area, and suggested the pattern of the previous season, an announcement was made that afternoon, placing the fleet on 24 hour notice effective 3:00 p.m. the following day, April 7. The R/V Montague was dispatched to the area to collect samples for age composition and roe recovery. Surveys on the

following day revealed an increase in spawning activity and the season's peak biomass estimate for the area of 12,200 tons. It was suspected that this was the major body of the P.W.S. biomass, and with these fish rapidly approaching optimum maturity, the advanced notice period was reduced to 2 hours effective 1:00 p.m. April 8. Surveys on the 8th revealed a increase in spawning activity in the Fairmount Bay area and a redistribution of fish. Sampling of schools from different bays in the area yielded roe recoveries ranging from 10-12%. A one hour fishery opening was announced for 6:00 p.m. on the evening tide and included the waters of Wells, Cedar, Granite and Fairmount Bays and the waters surrounding Fairmount island. Weather conditions were ideal and the harvest for this opening totaled 3,100 tons. Due to the early timing and rapid development of the spring season, a number of boats and one processor missed this first opener.

The morning survey on April 9 revealed continued strength, with new fish moving inside Wells Bay and the development of a major spawn inside of Fairmount Bay. In light of the biomass observed in this area, and other areas such as Valdez Arm and considering that significant numbers of fish would likely show through the balance of the month, it was felt that the area wide biomass was sufficiently large to warrant harvest at the upper end of preseason harvest range (3000-5000 T.). A second opener was announced for 12:30 p.m. on April 9th, lasting 30 minutes. The area opened included the same waters as on the previous day, with the exception of Fairmount Bay, which at that point had a major spawn in progress. The harvest for this second opener was 1,786 tons, bringing the season's total harvest up to 4,982 tons (Table 50, Figures 29 & 30).

The quality of the harvest was reported to be above average by most processors with the average roe recovery coming in at 11%. The fishermen were advanced \$800 per ton for 10% fish and a \$200 adjustment is anticipated. Assuming a final average price of \$1100 for 11% fish, the value of the harvest is estimated at \$5.5 million.

Gill Net Sac Roe Season:

With the rapid development of the sac roe seine season, the gill netters were placed on 24 hour advanced notice on April 8th. The notice period was reduced to two hours immediately following the closure of the second seine opening on April 9. Sampling with the gill net fleet began that afternoon, however one processor and some of the fishermen recommended a delay in scheduling an opener until the following day to obtain premium quality. Sampling on April 10 resulted in roe recoveries ranging from 9.8 - 15.5%. A 24 hour opening was announced to begin at 12:00 noon on April 10th. Harvest rates during the first part of the opener were much higher than expected resulting from the fleet's utilization of more efficient equipment than has been used in the past. A significant portion of the fleet has now started using 30' herring skiffs equipped with hydraulic shakers and capable of hauling 4 to 6 times the tonnage as the traditional Copper River bow pickers. This contributed to the large harvest of 533 Tons, which stands as the largest on record for this gear type and grossly exceeded the upper end of the preseason harvest range of 200-300 Tons (Table 51, Figure 30).

Fishing effort through the opening dropped off significantly after the first 12 hours as fish availability declined. Had this not occurred, the end harvest may well have been significantly higher. The quality of the harvest was lower than that of the purse seine opener, with average recovery of about 9.5%. The exvessel value of the harvest is estimated at \$516,000.

In retrospect, harvest objectives may have been more effectively met had a short test opening been scheduled for the evening of April 9. This strategy would have given us an indication of fleet efficiency, as well as an evaluation of roe quality. A second opener the next day could have been designed to target on areas with the best quality and had a duration that would have held harvests closer to pre season harvest goals.

Wild Harvest Spawn on Kelp

The 1987 natural spawn on kelp fishery occurred from April 15th to April 17th in Unakwik Inlet, Wells Bay, Cedar Bay, Granite Bay, Fairmount Bay, and the waters surrounding Fairmount Island (Figure 32). The 1987 guideline harvest established by the Board of Fisheries was 103 tons of herring roe, however declines in area herring biomass resulted in a downward adjustment of the target harvest to 85 tons. Sampling on April 14th and 15th indicated that the roe on kelp was clean, had good coverage, and was present in sufficient quantities to warrant opening the fishery. By emergency order the fishery was opened on April 15th for six hours from 6:00 a.m. until 12:00 p.m. The harvest for this period was 12.4 tons consisting of approximately 90 percent ribbon kelp and ten percent hair and seive kelp. The fishery was reopened by emergency order on April 17th for 30 hours. The interim cumulative harvest at 8:00 a.m. on 17 April was 46.3 tons and in order to achieve the guideline harvest level of 85 tons the decision was made to extend the period for an additional eight hours. The total reported harvest was 88.2 tons (Table 52, Figure 31).

A total of three processors and thirty fishing vessels with 60 divers participated in the 1987 wild spawn on kelp fishery. There was an average of 2.0 divers per vessel based on on-site interviews. The distribution of effort shifted throughout the fishery. On April 15th the effort was concentrated equally between Payday Point and Fairmount Point. On April 16th an 17th the effort was concentrated primarily in the waters of Fairmount Point.

The quality of the roe on kelp was good, however an increase in the percentage of eyed eggs was observed near the termination of the fishery. Prices to fishermen averaged \$1.70 per pound for ribbon kelp, \$.85 for sieve kelp, and \$.80 for hair kelp. The estimated value of the harvest was approximately \$284,250.

Roe on Kelp in Pounds:

The roe on kelp in pounds fishery was limited by the Commercial Fisheries Entry Commission in December of 1986. Although 147 persons applied for an

ADF&G permit only 111 were eligible for CFEC permits and qualified for an allocation by constructing a pound frame by April 1st.

The pound fishermen were placed on 24 hour advance notice on April 1st, when the first small schools of fish were detected in the Valdez Arm and Tatitlek areas. With the largest participation in the history of this fishery, it was anticipated that considerable management latitude may be required to provide opportunity for all operators to harvest fish for kelp production. A significant volume of fish moved into Valdez Arm and Tatitlek Narrows over the subsequent 10 days, however most pound operators had previously made firm commitments to receive their kelp shipments at a later date and were unable to take advantage of these fish. Those operators that had some flexibility to schedule shipments earlier were also delayed by untimely storms in Southeastern Alaska where their Macrocystis was to be harvested.

Galena Bay was opened to seining of herring for introduction into pounds on April 10, which was a day in advance of the first kelp shipments. By the time that pound operators were prepared to harvest fish, the herring in Galena had completed spawning and additional areas had to be opened. These areas included Tatitlek Narrows, Boulder Bay and all of Port Fidalgo. At the close of the fishing opening on April 21, all but 4 of the pounds were filled with fish and producing roe on kelp. Operational pounds were located in Galena Bay, Virgin Bay, Boulder Bay, Landlocked Bay and Two Moon Bay, with the majority in Two Moon. Harvesting lasted through April 27th, with the season's total coming in at 61.3 tons of roe on kelp (Table 53, Figure 31). The majority of the harvest was composed of Macrocystis, and only minor fraction of the total was made up by locally harvested ribbon kelp (Laminaria sp.).

Due to the later timing of harvest, the fish utilized by the pound fishery were predominantly (80-90%) three year olds with lower fecundities than the older fish normally utilized. As a result the egg coverage was below normal and the end product was a grade or two below last year. Reportedly there was very little Number 1, and the bulk of the harvest was Number 4. In spite of this, prices were quite high, averaging \$15.00 per pound bringing the estimated value of the total harvest up to \$1.8 million.

Stock Assessment:

While aerial surveys are still the primary stock assessment tool utilized within the season, the preseason outlook for 1987 was based on a stock recruitment model adapted from the Bering Sea herring program. This model, assuming no recruitment of young fish, indicated a 1987 stock size of 30,000 to 40,000 Tons, which formed the basis for the season's management strategy. Efforts are currently in progress to develop a more sophisticated biomass assessment tools, including cohort analysis of the large historical catch at age data base for Prince William Sound (Funk and Sandone, 1988). A detailed analysis of historical aerial survey data was recently completed reflecting abundance indices from observed biomass and mapped areas of spawn (Brady, 1987). Commencing in 1988 an egg deposition study will be re-instituted to derive abundance estimates of the spawning biomass. With the current

management plan, that bases harvest quotas on the area biomass estimate, and increasing demands of the fishing fleet, improving biomass assessment techniques is a high priority.

A total of 9 samples of approximately 600 fish each were taken through the course of the season for analysis of age, sex, length, and weight. Samples were taken from the harvest of all fisheries and from beach seine and commercial test sets. Special beach seine samples were taken by the F/V Montague on the earliest showing of fish on April 6th and on a significant late show on May 9th (Figure 27). Age structure of the main biomass was as anticipated, showing a dominance of the 1980 and 1981 brood classes, 6 and 7 year old fish (Table 57, Figure 25 & 26). Of particular interest however was the later strength that developed of the 3 year age class, 1984 brood year. The April 6th sample in Fairmount Bay consisted of only 9% three year olds. This percentage climbed to 17% by the time of the seine fishery (April 8 & 9) and reached 32% on April 11 at the start of seining of herring for introduction into pounds. Samples after this time in Port Fidalgo and Fairmount Bay showed an incidence of three year old fish ranging from 80-90% (Figure 27). Additional analysis of this in conjunction with aerial survey biomass estimates, will be necessary to determine the true strength of the three year old component of the over all P.W.S. biomass.

The aerial survey program was initiated on March 18 and surveys were flown through May 9. Surveys were flown a total of 29 days, school of herring were observed on all but the March 18 survey. During the week of the sac roe harvests it was necessary to fly two or three surveys each day. The peak daily observation was made on April 7, and amounted to 13,220 tons for all areas of the Sound combined. Daily biomass observations declined after this point, however minor peaks were observed through the course of the season. Of particular note was a second showing of fish in the Fairmount Bay area on May 7 amounting to over 5,000 tons. The season's peak biomass estimate was 24,090 (Table 56).

Aerial observations of herring biomass in Prince William Sound is difficult due to the complex shoreline and deep fjords which allow schools of fish to remain in deeper water out of sight. As schools move up and down the estimates made based on visible surface area can change drastically from one minute to the next. The peak survey of the spawning biomass prior to the sac roe harvest was optimally timed as a large portion of the biomass had moved into the shallow waters at the head of Cedar Bay where they were clearly visible. On the other hand estimates in Port Fidalgo were admittedly low, as indicated by the amount of spawn that was observed there and the volume of fish that was harvested for introduction into pounds. To provide additional index of the spawning biomass, detailed maps of observed spawning (as indicated by milt in the water) are recorded in conjunction with the regular aerial survey program. An estimated 73 miles of beach received spawn and a total of 155 mile days of spawn were recorded, Table 56. The Fairmount/Wells Bay area accounted for over 50% of the spawn in the sound, with the bulk of the remaining spawn occurring between Valdez Arm and Port Fidalgo (Brady, 1987).

Based on a combination of the observed biomass, the duration and distribution of spawning and the strength of the three year age class, the 1987 spawning biomass is estimated at 40 - 45,000 Tons. Unfortunately it is still necessary to apply a good deal of personal interpretation and "gut feeling" to make such an estimate. Recent advances in documentation and analysis of catch, age and aerial survey data bases, the movement towards cohort analysis and the prospect of an egg deposition study shouls make possible more quantitative assessments of the P.W.S. herring stocks.

1987 Fall Herring Food and Bait Fishery

The 1987/88 herring food and bait fishery opened by regulation on September 1. The September 1 opening date was established two years ago to allow fishermen to target on smaller fish to satisfy specialized zoo food markets. This market, however, has never significantly materialized. The current market demand is for crab and long line bait. Quality long line bait demands a larger size herring with high oil content and firm flesh to stay on hooks. In April, the Department received written requests from three processors to delay the opening of the 1987/88 season until November, at which time they felt the fish harvested would be more suitable for long lining. This, they argued, would improve quality and value of the harvest and benefit all fishermen. However, it was not a general consensus and one processor and two fishermen preferred to start fishing at the normal opening date; consequently, the requests were denied.

With the high demand for bait and six boats participating, it was anticipated that the 1,400 ton quota would be harvested within six weeks of the opening date. The first delivery was reported on September 2; however, Cordova processors were not happy with the quality and size of the fish. Catches continued at a relatively slow pace through September with deliveries occurring every three days on average. Weather was not favorable and the fish were broken up into thin schools. To provide other opportunities for areas to fish, the Eastern and Northern herring districts were opened to the fishery on September 23. With the current management plan that addresses PWS herring as a single stock, there is no resource or stock justification to restrict the fishery to the General District. The expanded fishing area did not appreciably increase harvest rates.

On October 4 and 5, processors and fishermen met to discuss the merits of a delayed harvest for improved quality. On this occasion, all parties agreed that a later date of harvest would increase the value of the catch and benefit fishermen and processors alike. Representative fishermen brought this request again to the Department. When it was determined that the consensus was now unanimous, the season was closed by E.O. on October 6th, for a period of five weeks, reopening on November 9th. At this time 515 tons had been harvested leaving 885 tons on the quota.

All six boats that participated in the earlier season returned for the second opening. In addition, the boats had arranged for tenders on the grounds and a new processor was registered to buy. The first night of the fishery, the boats had difficulty locating fish and only 30 tons were harvested (Table 54). The second night fishing improved significantly and

approximately 195 tons were harvested. The fleet was placed on notice that the fishery could close after one or two more nights of fishing. The night of November 11th, 416 tons were harvested bringing the total up to 1,190 tons (Table 55, Figure 28). With the capacity of the fleet to harvest over 400 tons in one night, any additional fishing would result in a harvest significantly in excess of the quota. Consequently, the fishery was immediately closed. A majority of the harvest came from the vicinity of Knowles Head; however, good catches were also reported from St. Matthews Bay.

The harvest total of 1,190 tons and the average price of \$300 per ton, sets the estimated value of the harvest is \$360,000. Overall processors reported that fish from the second opening showed an increased oil content and a general improvement in quality. The Department's stock sampling program showed no significant difference in mean weights (89 g. vs 92 g.) or length (180 mm. vs. 183 mm.) for samples taken on September 2nd and November 11th respectively. Age structure for both samples was predominately 3 year old fish with a higher component of two year old fish showing in the November sample. A total of six buyers participated during the season.

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ACKNOWLEDGEMENTS

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Maxine Holliday

Area Management Biologist
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Research Project Leader(through 2/27/87)
Research Project Leader
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Research Biologist(beginning 5/1/87)
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Fish ticket editor (through 7/1/87) Fish ticket editor (from 7/20/87 - 10/2/87) Data Entry Herring Pound Monitor/Coghill Weir Salmon sampler Salmon sampler Salmon sampler Salmon sampler Salmon sampler(College Intern) Salmon sampler(College Intern) Coghill Weir Miles Lake sonar, Crew Leader Miles Lake sonar Boat Shed Project/Miles Lake sonar Miles Lake sonar Miles Lake sonar

Table 1. Commercial salmon catch by gear type by district, in the Prince William Sound management area, 1987.

PUR	QF.	SE	TN	T.
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District	Chinook	Sockeye	Coho	Pink	Chum	Total
Eastern Northern Northwestern Southwestern Montague Southeastern	191 56 83 85 4 10	22,268 30,116 14,701 42,621 269 1,700	6,761 1,730 3,551 12,665 314 23	2,226,988 750,877 13,341,940 111,011	71,116 150,227 1,754	2,623,615 840,328 13,547,538 113,352
General P.S. Subtotal	429	111,675		24,351,353	<u>-</u>	
Coghill Unakwik	58	38,899 146	1,956	865,671 187,752	•	965,836 194,447
Purse Seine Total	487	150,720	27,000	25,404,776	1,529,588	27,112,571

DRIFT GILLNET

Copper River Bering River	41,001 34	1,180,782 16,926	111,599 15,864	31,635 54	14,796 7	1,379,813 32,885
Copper/Bering Subtotal	41,035	1,197,708	127,463	31,689	14,803	1,412,698
Coghill Unakwik Eshamy	352 2 2	377,454 5,894 642	13,396 1 3	712,897 4,871 3,225	318,842 1,356 7,060	•
P.W.S. Gill Net Total	356	383,990	13,400	720,993	327,258	1,445,997
Drift Gill Net Total	41,391	1,581,698	140,863	752,682	342,061	2,858,695

MISC. GEAR

Eshamy set net Hatcheries Confiscated	31	5,387 12 172	336 7,015	86,677 2,986,061 107	45,099 2,549 118	137,530 2,995,637 397
Misc. Gear Total	31	5,571	7,351	3,072,845	47,766	3,133,564

Area Total 41,909 1,737,989 175,214 29,230,303 1,919,415 33,104,830

Table 2. Estimated exvessel value of the 1987 Prince William Sound management area commercial salmon harvest, 1987.

		Purse Seine			
Species	Number	Pounds	Avg. Wt.	Price	Value
Chinook Sockeye Coho Pink Chum	487 150,720 27,000 25,404,776 1,529,588	5,777 1,011,612 200,743 87,863,728 11,996,361	11.86 6.71 7.43 3.46 7.84	0.85 1.45 0.25 0.40 0.39	4,910.45 1,466,837.40 . 50,185.75 35,145,491.20 4,678,580.79
	27,112,571	101,078,221			41,346,005.59
	P	.W.S. Drift Gi	llnet		
Species	Number	Pounds	Avg. Wt.	Price	Value
Chinook Sockeye Coho Pink Chum	356 383,990 13,400 720,993 327,258	4,615 2,815,142 119,656 2,890,341 2,405,526	12.96 7.33 8.93 4.01 7.35	1.75 1.75 0.75 0.35 0.50	8,076.25 4,926,498.50 89,742.00 1,011,619.35 1,202,763.00
	1,445,997	8,235,280			7,238,699.10
	C	opper/Bering D	rift Gill N	let	
Species	Number	Pounds	Avg. Wt.	Price	Value
Chinook Sockeye Coho Pink Chum	41,035 1,197,708 127,463 31,689 14,803	1,128,550 7,777,066 1,079,645 132,121 93,934	27.50 6.49 8.47 4.17 6.35	1.75 1.90 0.93 0.32 0.43	1,974,962.50 14,776,425.40 1,004,069.85 42,278.72 40,391.62
	1,412,698	10,211,316			17,838,128.09

P	T.T	Q	Sot	Gillr.	-
I .	. W .	. o.	SeL	GTTTI	ヒヒレ

Species	Number	Pounds	Avg. Wt.	Price	Value
Chinook Sockeye Coho Pink Chum	31 5,387 336 86,677 45,099	423 34,711 1,699 318,816 351,632	13.65 6.44 5.06 3.68 7.80	1.85 1.60 0.85 0.30 0.45	782.55 55,537.60 1,444.15 95,644.80 158,234.40
	137,530	707,281			311,643.50

Gear Type	Value of Catch	No. of Permits	Average Earnings
Purse Seine Drift Gill Net Set Gill Net	41,346,005.59 25,076,827.19 311,643.50	260 516 16	159,023.10 48,598.50 19,477.72
Value of Total Catch	66,734,476.28 (1)		

⁽¹⁾ Does not include revenues generated by hatchery sales harvests.

Table 3. Commercial salmon catch by species from all Prince William Sound Districts, 1971 - 1987.(1)

	Catch by Species					
Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1971	20,142	741,945	327,697	7,312,730	579,552	8,982,066
1972	23,003	976,115	124,670	57,090	46,088	1,226,966
1973	22,638	473,044	199,019	2,065,844	740,017	3,500,562
1974	20,602	741,340	76,041	458,619	89,210	1,385,812
1975	22,325	546,634	84,109	4,453,041	101,286	5,207,395
1976	32,751	1,008,912	160,494	3,022,426	370,657	4,595,240
1977	22,864	943,943	179,417	4,536,459	573,166	6,255,849
1978	30,435	505,509	312,930	2,917,499	489,771	4,256,144
1979	20,078	369,583	315,774	15,615,810	349,615	16,670,860
1980.	8,643	208,724	337,123	14,161,023	482,214	15,197,727
1981	20,782	784,469	396,163	20,558,304	1,888,822	23,648,540
1982	47,871	2,362,328	623,877	20,403,423	1,336,878	24,774,377
1983	53,879	908,469	365,469	13,977,116	1,048,737	16,353,670
1984	39,774	1,303,515	609,484	22,119,309	1,229,185	25,301,267
1985	43,735	1,464,563	1,025,046	25,252,924	1,321,538	29,107,806
1986	42,128	1,288,712	426,240	11,410,302	1,700,906	14,868,288
10 Year					,	
Average (1977-86)	33,019	1,013,982	459,152	15,095,217	1,042,083	17,643,453
1987	41,909	1,737,989	175,214	29,230,303	1,919,415	33,104,830

⁽¹⁾ Includes catches by all gear types and hatchery sales from the Eastern, Northern, Coghill, Unakwik, Northwestern, Eshamy, Southwestern, Montague, Southeastern, Copper River and Bering River Districts.

Table 4. Commercial salmon catch by species in the Copper River District, 1971 - 1987.

Catch by Species Year Chinook Sockeye Coho Pink Chum . Total -----1971 16,486 616,801 208,915 1,762 5,287 849,251 1972 22,349 727,144 103,211 2,304 855,725 717 19,948 1973 332,816 132,272 8,964 10,173 504,173 1974 18,890 607,766 46,625 9,839 664 683,784 1975 19,644 335,384 53,805 236 409,876 807 1976 31,483 865,254 111,900 3,392 1,012,207 178 1977 22,089 619,140 131,356 23,185 335 796,105 29,062 1978 249,872 220,338 3,512 2,233 505,017 17,678 1979 80,528 194,885 1,295 107 294,493 1980 8,454 18,908 225,299 3,966 198 256,825 1981 20,178 477,662 310,154 23,952 1,799 833,745 1982 47,362 1,177,632 1,177 454,763 7,154 1,688,088 1983 50,022 633,010 234,243 7,345 2,217 926,837 38,955 1984 899,776 382,432 32,194 6,935 1,360,292 1985 42,333 931,132 587,990 19,061 5,966 1,586,482 1986 40,670 295,980 780,808 3,016 17,614 1,138,088 10 Year Average 31,680 586,847 303,744 12,468 3,858 938,597 (1977-86)1987 41,001 1,180,782 111,599 31,635 14,796 1,379,813

Table 5. Copper River District sockeye salmon fishery, anticipated catch and escapement vs. actual catch and escapement, 1987.

		Fishing	·		Anticipated	Actual
		Time	Actual	Anticipated	Cumulative	Cumulative
Date	Week	(Hrs.)	Catch	Catch(1)	Escapement(2)	Escapement(3)
May 10-16	20	24	11,371	18,752	0	
May 17-23	21	48	182,468	135,553	8,831	2,417
May 24-30	22	48	222,623	194,392	45,139	77,084
May 31-June 6	23	84	265,775	148,157	131,951	173,986
June 7-13	24	60	191,496	116,542	222,252	227,335
June 14-20	25	24	74,907	94,897	278,026	264,526
June 21-27	26	36	78,013	65,348	315,202	336,675
June 28-Jul 4,	27	60	63,749	49,307	347,015	370,405
July 5-11	28	48	39,838	40,861	377,302	410,641
July 12-18	29	48	8,980	28,230	407,183	450,488
July 19-25	30	60	20,836	22,626	435,834	465,604
July 26-Aug 1	31	60 '	11,573	14,722	446,768	478,460
Aug 2-8	32	7.2	5,068	5,579	450,600	483,478
Aug 9-15	33	72	2,236	1,756	450,600	
Aug 16-22	34	72	1,484	878		•
Aug 23-29	35	. 72	365			
Season Total		888	1,180,782	937,600	. 450,600	483,478

⁽¹⁾ Based on average historic catches for comparable dates (1969-1986).

⁽²⁾ Based on historical escapements at Miles Lake sonar, includes upriver chinook escapement component and sockeye broodstock for the Gulkana hatchery. Does not include sockeye escapements for the Copper/Bering delta streams.

⁽³⁾ Escapement estimate from sonar counters at Miles Lake.

6. Commercial drift gillnet catch of salmon by period for the Copper River district, 1987.

Stat	Area	212
Drift	t Gill	net

					CHI	NOOK	soc	CKEYE	COE	Ю	P	INK	CI	HUM
eriod	Fished	HOURS FISHED	PERMITS	LANDINGS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS
1	5/13-5/14	24	391	568	4,267	117,935	11,371	74,112	0	0	0	0	279	1,867
2	5/18-5/19	24	445	674	5,801	155,746	65,695	416,902	107	697	0	0	47	298
3	5/21-5/22	24	438	751	3,838	104,407	116,773	731,446	0	0	0	0	83	520
4	5/25-5/26	24	463	677	3,333	91,423	96,056	605,754	. 0	. 0	0	<i>i</i> 0	23	146
5	5/28-5/29	24	456	747	4,051	107,385	126,567	812,970	0	o	0	. 0	341	2,196
6	6/1-6/3	48	475	1,339	5,932	163,999	-	1,160,615	90	610	6	20	184	1,031
7	6/4-6/6	36	486	960	4,215	116,986	87,885	578,410	2	14	4	14	227	1,322
8	6/8-6/9	36	425	845	4,453	124,283	105,200	695,968	8	53	14	64	479	2,853
9	6/11-6/12	24	447	640	1,781	51,539	86,296	565,643	273	1,697	144	610	3,733	21,609
10	6/15-6/16	24	409	657	1,333	37,615	74,907	493,445	45	291	400	1,513	2,539	14,879
11	6/22-6/23	36	294	542	1,259	36,602	78,013	508,289	336	2,109	366	1,449	1,524	11,303
12	6/29-6/30	36	186	266	438	11,541	44,683	285,856	415	2,565	355	1,309	981	6,408
13	7/02-7/03	24	219	272	125	3,276	19,066	123,855	274	1,835	1,411	5,748	588	4,079
14	7/06-7/07	24	119	174	46	1,445	18,541	123,982	35	244	1.418	5,845	1,308	8,293
15	7/09-7/10	24	208	283	. 51	1,514	21,297	141,222	652	4,916	1,381	5,482	381	2,916
16	7/13-7/14	24	19	21	7	224	3,392	22,013	87	725	244	1,051	63	492
17	7/16-7/17	24	48	. 60	4	116	5,588	36,964	196	1,481	337	1,358	105	724
18	7/20-7/21	36	72	108	10	249	12,827	87,593	694	5,087	6.860	31,307	395	2,935
19	7/23-7/24	24	57	71	2	60	8,009	53,751	489	3,905	861	3,591	86	492
20	7/27-7/28	36	67	126	6	194	9,888	68,054	1,926	15,399	1,358	5,709	61	248
21	7/30-7/31	24	47	51	1	10	1,685	11,576	2,515	19,079	805	3,295	208	1,249
22	8/3-8/4	36	99	150	1	35	3,779	25,654	9,928	79,751	1,724	7,454	253	1,140
	8/6-8/7	36	113	135	5	102	1,289	9,115	6,970	59,370	492	1,901	. 57	405
	1/10-8/13	72	225	527	9	225	2,236	16,487	19,611	164,173	12,137	49,058	789	6,099
	3/17-8/20	72	268	707	21	437	1,484	10,550	37,554	320,919	737	2,992	48	295
20	8/24-8/26	48	253	574	12	266	365	2,772	29,392	260,504	581	2,107	14	. 98
TOTAL	Ls		546	11,925	41,001	1,127,614	1,180,782	7,662,998	111,599	945,424	31,635	131,877	14,796	93,897

Table 7. Copper River daily salmon escapement estimates at the Miles Lake Sonar project, 1987.

			Actu	ial	Antic	ipated
Date	North Bank	South Bank	Daily Total	Cumulative Total	Daily Count	Cumulative Count
05/13					0	0
05/14			•		0	0
05/15					0	0
05/16					0	0
05/17					502	502
05/18					1,024	1,526
05/19	167 *		1.00	4.47	1,200	2,727
05/20	16/ W	25 4	167	167	1,290	4,017
05/21 05/22		36 * 482	36	203	1,359	5,375
05/22	131 *	1,601	482	685	1,367	6,743
05/24	235 *	1,805	1,732	2,417	2,088	8,831
05/25	375 *	3,888	2,040	4,457	3,312	12,143
05/26	139 *	6,976	4,263	8,720 15,835	3,428	15,571
05/27	48 **	12,128	7,115 12,176	28,011	3,601	19,172
05/28	370 *	16,022	16,392	44,403 .	5,209	24,381
05/29	5,0	14,485	14,485	58,888	8,459	. 32,840
05/30	439 *	17,757	18,196	77,084	5,005	37,845
05/31	439	18,540	18,540	95,624	7,293	45,139
06/01	45 *	16,350	16,395	112,019	9,514 9,583	54,652
06/02	7.5	14,385	14,385	126,404	12,312	64,235
06/03	80	17,586	17,666	144,070	11,162	76,547 87,709
06/04	21.5	14,417	14,632	158,702	13,694	101,403
06/05	154	10,808	10,962	169,664	15,805	117,208
06/06	90	4,232	4,322	173,986	14,744	131,951
06/07	96	5,659 ****	5,755	179,741	13,792	145,743
06/08	224	6,142	6,366	186,107	15,570	161,313
06/09	240	7,682	7,922	194,029	15,315	176,628
06/10	144	11,409	11,553	205,582	13,030	189,659
06/11		11,194	11,194	216,776	12,390	202,048
06/12		6,506	6,506	223,282	10,309	212,357
06/13		4,053	4,053	227,335	9,896	222,252
06/14	49	8,004	8,053	235,388	9,021	231,274
06/15		5,485	5,485	240,873	9,303	240,577
. 06/16		5,516	5,516	246,389	8,913	249,490
06/17	12 *	5,394	5,406	251,795	8,876	258,366
06/18		4,815	4,815	256,610	7,920	265,286
06/19	24	3,959	3,983	260,593	6,263	272,549
06/20	22	3,911	3,933	264,526	5,477	278,026
06/21		3,924	3,924	268,450	5,5 85	283,611
06/22	600 *	5,779	6,379	274,829	5,688	289,299
06/23	72	10,039	10,111	284,940	6,180	295,479
06/24	144	15,564	15,708	300,648	5,804	301,284
06/25	96	16,421	16,517	317,165	5,253	306,537
06/26	24 *	12,476	12,500	329,665	4,524	311,060
06/27	48	6,962	7,010	336,675	4,142	315,202
06/28	96	5,548	5,644	342,319	4,031	319,233
06/29	120	6,716	6,836	349,155	3,921	323,154
06/30		4,636.	4,636	353,791	3,857	327,012
07/01		2,012	2,012	355,803	4,250	331,262
07/02		3,406	3,406	359,209	4,982	336,244
07/03		4,096	4,096	363,305	5,077	341,320
07/04		7,100	7,100	370,405	5,694	347,015
07/05		4,351	4,351	374,756	4,770	351,785
07/06		3,393	3,393	378,149	4,526	356,310
07/07		5,617	5,617	383,766	3,950	360,260
07/08		6,616	6,616	390,382	3,632	363,892
07/09	189	6,163	6,352	396,734	3,944	367,836
07/10	1,645	6,940	8,585	405,319	5,016	372,852
07/11	1,856	3,466	5,322	410,641	4,450	377,302
07/12	1,038	4,719	5,757	416,398	4,381	381,682

Table 7 (continued). Copper River daily salmon escapement estimates at the Miles Lake Sonar project, 1987.

			Actu		Antid	ipated
Date	North Bank	South Bank	Daily Total	Cumulative Total	Daily Count	Cumulative Count
07/13	561	6,022	6,583	422,981	3,480	385,162
07/14	526	5,913	6,439	429,420	4,028	389,190
07/15	945	4,777	5,722	435,142	4,288	393,478
07/16	547	5,712	6,259	441,401	4,408	397,886
07/17	45 5	4,012	4,467	445,868	4,196	402,083
07/18	1,153	3,467	4,620	450,488	5,100	407,183
07/19	942	3,185	4,127	454,615	6,196	413,379
07/20	500	3,134	3,634	458,249	6,126	419,504
07/21	195	2,246	2,441	460,690	4,848	424,352
07/22	276	997	1,273	461,963	3,481	427,833
07/23	328	674	1,002	462,965	2,971	430,804
07/24	79	546	625	463,590	2,690	433,494
07/25	247	1,767	2,014	465,604	2,341	435,834
07/26	368		368	465,972	1,838	437,672
07/27	194 *	432 *	626	466,598	1,661	439,333
07/28		2,494	2,494	469,092	1,835	441,168
07/29		2,341	2,341	471,433	1,597	442,765
07/30		2,075	2,075	473,508	1,520	444,285
07/31		2,226	2,226	475,734	1,286	445,571
08/01		2,726	2,726	478,460	1,197	446,768
08/02		1,299	1,299	479,759	1,068	447,836
08/03		1,702	1,702	481,461	787	448,623
08/04		1,499	1,499	482,960	831	449,454
08/05		. 518 8hr	518	483,478	444	449,898
08/06					425	450,323
08/07					196	450,519
08/08					33	450,552
08/09					48	450,600
08/10					0	450,600
08/11		•			0	450,600
08/12					0	450,600
08/13					0	450,600
08/14					0	450,600
08/15					0	450,600
Total	16,543	466,935	483,478	483,478	450,600	450,600

^{*} Extrapolated numbers from testfish data.

^{**} South bank transducer and artificial substrate deployed on 5/22.

^{***} Extrapolated form partial sonar estimate.

^{****} South bank on rail.

Table 8. Copper River and Bering River area sockeye salmon escapement estimates, 1978 - 1987.(1)

Stream/Lake(2)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Eyak Lake	13,450	13,500	22,500	11,300	11,700	8,900	11,690	11,025	2,960	7,420
Hatchery Creek	300	1,000	700	4,750	1,800	2,000	3,700	850	650	1,975
Power Creek	2,500	glacial	4,500	1,100	300	200	500	muddy	0	0
Ibek Creek	٥	0	0	0	0	0	0	25	0	0
McKinley Lake	18,000	25,000	27,500	10,000	9,500	12,000	15,000	19,000	12,000	10,300
Salmon Creek	2,819	4,000	5,000	10,800	13,500	8,500	11,000	8,000	900	2
26/27 Mile Creek	2,000	1,500	7,500	9,500	5,500	8,000	7,500	6,500	2,030	4,100
39 Mile Creek	6,500	17,500	18,000	11,000	13,000	13,000	17,000	27,000	9,500	6,100
Goat Mountain	1,000	muddy	150	muddy	3,000	100	1,500	150	600	1,000
Pleasant Creek	turbid	muddy	250	muddy	NS muddy	NS muddy	7,400	2,500	1,000	1
Martin River	3,500	8,200	3,500	5,350	1,000	3,650	5,000	0	[.] 2,875	1,480
Ragged Pt. R./Lake	5,500	20,000	18,000	9,500	13,500	10,000	8,950	18,500	3,900	4,100
Martin Lake	12,000	14,000	27,650	41,050	14,820	17,600	35,350	20,500	11,200	6,010
Pothole Lake	1,100	5,000	2,200	8,000	1,230	6,500	6,000	1,500	2,200	910
L. Martin Lake	4,500	4,000	8,000	2,500	6,020	6,400	10,500	11,000	1,500	3,320
Tokun Lake/River(3)	4,000	10,000	1,500	1,700	450	500	27,553	11,393	16,000	8,080
Martin River Slough	6,300	4,200	10,000	15,000	9,500	11,000	14,500	8,100	7,980	5,900
Copper Delta Total	83,469	127,900	156,950	141,550	104,820	108,350	183,143	146,043	75,295	60,698
Upper Copper R.(4)	107,011	237,173	276,538	535,263	467,306	545,724	536,806	436,313	509,275	483,478
Copper R. Dist. Tot	190,480	365,073	433,488	676,813	572,126	654,074	719,949	582,356	584,570	544,176
Bering River/Lake							29,000	15,700	13,200	19,200
Shepherd Creek							14,500	8,000	3,600	4,100
Clear Creek							3,500	100	1,350	2,000
Kushtaka Lake							1,500	500	825	1,225
Bering R. Area Tot.							48,500	24,300	18,975	26,525
Copper/Bering Total					***************************************		768,449	606,656	603,545	570,701

⁽¹⁾ The escapement figures in this table are based on peak aerial survey estimates, sonar and weir counts from a majority of the known salmon spawning areas in the Copper and Bering River delta. These indices are not intended to provide a true estimate of total escapement for the coastal stocks, but a comparable index based upon the best data currently available. An effort has been made to standardize the estimate across years, however in years prior to 1984, different methodology was used and discrepancies may be found when cross referenced to the primary data.

⁽²⁾ The areas in this table represent combined survey sites corresponding to the "system" designations for the current year survey results presented elsewhere in this report.

⁽³⁾ Weir counts at Tokon Lake included in estimates for 1983, 1984 and 1985.

⁽⁴⁾ Upriver escapement estimate from Miles Lake sonar counts.

Table 9. Copper River delta and Bering River coho salmon escapement estimates, 1980 - 1987.(1)

Stream/Lake(2)	1980	1981	1982	1983	1984	1985	1986	1987
Eyak Lake	9,200	2,750	7,000	14,600	6,500	1,400	2,550	2,800
Hatchery Creek		2,500	125	1,000	1,750	7,010	400	850
Power Creek		800	1,500	1,000	1,900	1,800	0	4,800
Ibek Creek	12,110	10,000	1,100	4,200	9,700	8,500	4,200	3,100
McKinley Lake	2,500	†	500	5,000	500	4,300	1,600	10
Salmon Creek	2,000	1,700	4,650	6,500	850	7,000	200	0
26/27 Mile		250	50	٥	350	300	60	350
39 Mile	7,100	1,900	2,000	6,500	8,000	8,000	5,800	2,800
Goat Mountain	800	500	50		600	4,000	100	520
Pleasant Cr.	500		400	350	1,100	1,500	٥	250
Martin River	12,855	4,000	7,500	3,100	4,000	11,500	4,820	3,060
Ragged Pt. River/Lake		1,200	2,550	5 25	650	1,500	30	3,330
Martin Lake	4,500		9,000	6,100	4,700	9,100	275	70
Pothole Lake					900	8,500	640	70
Little Martin Lake	1,500	6,000	150	1,125	7,000	4,100	275	560
Tokun River/Lake	4,200	800	2,400	350	525	1,900	490	495
Martin River Slough	22,000	10,900	1,350	9,700	15,500	26,000	4,350	3,400
Copper Delta Total	79,265	43,300	40,325	60,050	64,525	106,410	25,790	26,465
Katalla R.	8,000	3,000	11,500	4,800	7,000	14,000	1,800	1,600
Bering Lake	700	0	8,000	4,000	2,000	18,000	1,350	900
Dick Creek	1,625	0	5,500	7,100	5,500	5,000	350	50
Shepard Cr.	0	600				1,500	10	45
Nichawak R.	250		5,000	800	1,000	3,500	1,700	250
Gandil R.	600					4,500		
Controller Bay		•			4,500	34,000	4,210	2,740
Bering Area Total	11,175	3,600	30,000	16,700	20,000	80,500	9,420	5,585
Copper/Bering Total	90,440	46,900	70,325	76,750	84,525	186,910	35,210	32,050

⁽¹⁾ The escapement figures in this table are based on peak aerial survey estimates and weir counts from a majority of the known salmon spawning areas in the Copper and Bering River delta. These indices are not intended to provide a true estimate of total escapement for the coastal stocks, but a comparable index based upon the best data currently available. An effort has been made to standardize the estimate across years, however counts were obtained only as environmental conditions allow and may not necessarily correspond to periods of peak abundance. Missing counts are generally a result of bad weather, high water, turbulence or other factors that prevented surveys for that given year.

⁽²⁾ The areas in this table represent combined survey sites corresponding to the "system" designations for the current year survey results presented elsewhere in this report.

Table 10. Aerial survey indices of sockeye salmon escapement to the Upper Copper River drainage, 1978 to 1987.

Yearly Survey Indices

Location	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	10 Year Average
Fish Lake	2,650	1,700	3,175	8,800	22,560	5,500	10,950	3,750	8,750	9,530	7,737
Bad Crossing #1&2	600	650	75	15,000.	4,550	2,000	760	1,125	5,300	2,575	3,264
Suslota Lake	1,200	1,000	1,700	300	1,800	5,600	700	2,200	1,300	970	1,677
Dickey Lake	75	13	250	20	410	135	105	290	43	360	170
Keg Creek	1,050	1,300	2,335	320	495	620	2,505	825	200	400	1,005
Mahlo Creek	300	450	1,000	1,800	3,300	2,400	4,300	575	1,750	2,350	1,823
St. Anne Creek	1,150	730	5,000	4,700	8,800	9,700	10,300	1,250	4,600	6,980	5,321
Fish CrMentasta	1,300	350	900	10,500	1,700	900	900	1,800	1,100	250	1,970
Swede Lake	80	155	400	450	1,400	550	2,400	250	385	113	618
Tana River	504	465	2,130	290	1,100	2,485	3,665	1,145	1,825	472	1,408
Mentasta Lake	3,600	2,500	3,200	7,400	3,250	6,800	4,850	3,850	2,850	1,800	4,010
Tanada Lake	525	3,375	4,200	5,300	3,880	4,300	9,100 -	5,900	3,960	4,950	4,549
Salmon Creek	50	450	1,500	250	850	1,550	1,350	575	300	1,150	803
Paxson Inlt-Mud Cr	2,700	5,400	8,200	2,200	1,150	7,500	15,700	7,500	7,000	4,250	6,160
Mud Creek and Lake	150	460	740	810	1,900	470	. 270	200	70	0	507
Mendeltna Creek	725	350	1,125	4,830	400	2,850	1,900	2,300	3,325	2,275	2,008
Paxson Lake Outlet	2,500	1,900	3,800	1,500	3,800	3,300	4,100	3,600	1,810	5,100	3,141
Mud Cr Summit L.,	800	2,600	3,075	3,400	17,400	5,700	9,600	8,150	3,375	9,050	6,315
Long Lake	1,425	3,100	2,650	1,325	1,700	5,600	1,360	590	1,300	1,225	2,028
Tonsina Lake	4	775	650	1,725	1.700	2,850	975	290	350	740	1,006

Totals 21,388 27,723 46,105 70,920 82,145 70,810 85,790 46,165 49,593 54,540 55,518

Table 11. Aerial survey indices of chinook salmon escapement to the Copper River drainage, 1978 - 1987.

Yearly Survey Indices

Location	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	10 Year Average
East Fork Chistochina	137	810	575	120	1,260	5 75	577	360	618	764	580
Gulkana River	921	1,380	718	754	1,656	931	2,189	321	3,182	1,228	1,328
Mendeltna Creek	52	5	3	51	70	12	26	26	76	. 10	33
Kiana Creek	125	279	247	191	200	166	382	91	328	80	209
St. Anne Creek	24	16	8	19	35	87	89	15	182	192	67
Manker Creek	20	16	35	23	49	141	264	22	251	141	96
Grayling Creek	92	153	66	107	127	287	279	58	224	112	151
Little Tonsina River	285	285	70	191	440	330	568	203	424	247	304
Indian River	9	29	24	20	179	41	17	14	29	33	40
Total without						a nsus					
interpolated counts	1,665	2,973	1,746	712	4,016	2,570	4,391	1,110	5,285	2,807	2,728
Counts Missing			,	2					1		:. :
Total with									,	•	
interpolated counts	1,665	2,973	1,746	1,476	4,016	2,570	4,391	1,110	5,314	2,807	2,807

Table 12. Estimated age and sex composition of sockeye salmon in the commercial catches from the Copper River District drift gillnet fishery, 1987.(1)

					:	Brood Y	ear and A	ge Grou	Þ			
		1984		1983			1982			1981 .	1980	
		0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	Total
Catch Da	tes: 5/10-8/29											
Sample I	Dates: 5/13-7/24											
Sample S	Size: 5,306											
Female	Pct. of Sample	0.1	3.9	2.7	0.0	0.1	42.6	0.2	0.1	2.5	0.0	52.2
	No. in Catch	726	46,598	32,306	0	921	502,242	1,833	1,333	29,941	388	616,288
Male	Pct. of Sample	0.2	3.2	2.4	0.0	0.0	39.6	0,2	0.2	2.0	0.0	47.8
	No. in catch	2,177	37,083	28,862	219	83	467,724	2,303	1,839	24,204	0	564,494
[otal	Pct. of Sample	0.3	7.1	5.1	0.0	0.1	82.2	0.4	0.3	4.5	0.0	100.0
	No. in Catch	2,903	83,681	61,168	219	1,004	969,966	4,136	3,172	54,145	388	1,180,782
	Std. Error	872	4,918	3,477	146	508	7,077	997	891	4,120	331	

⁽¹⁾ Based on final catch summaries from fish tickets and age and sex composition data from a stratified systematic sampling program, (Sharr, 1988).

Table 13. Estimated age and sex composition of chinook salmon in the commercial catches from the Copper River District drift gillnet fishery, 1987 (1).

		1983		1982	rood Y	ear and Ag 1	e Group 981	19	80	
		1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	Total
Catch Da	tes: 5/10-8/29		·							
Sample D	ates: 5/14-6/09									
Sample S	ize: 2,576									
Female	Pct. of Sample	1.0	0.0	24.4	0.0	18.6	1.0	0.2	0.6	45.8
	No. in Catch	424	0	9,992	. 0	7,627	428	82	235	18,788
Male	Pct. of Sample	1.8	0.0	22.5	0.0	27.8	1.2	0.3	0.5	54.2
	No. in Catch	741	15	9,210	20	11,387	497	119	224	22,213
								200		
Total	Pct. of Sample	2.8	0.0	46.8	0.0	46.4	2.3	0.5	1.1	100.0
	No. in Catch	1,165	15	19,202	20	19,014	925	201	459	41,001
	Std. Error	139	15	405	19	405	124	58	80	

⁽¹⁾ Based on catch summaries from fish tickets and age composition data from a stratified systematic sampling program, (Sharr, 1988).

Table 14. Estimated age and sex composition of coho salmon in the commercial catches in the Copper River District drift gillnet fishery, 1987 (1).

		1985		d Year an 1983	-	-	
		0.1	1.1	2.1	3.1	4.1	Total
Sample Da	ombined: 5/13-8/29 ates: 8/08-8/19 ize: 955						
Female	Pct. of Sample No. in Catch	0.0		15.3 17,120		0.0	23.7 26,405
Male	Pct. of Sample No. in Catch	0.3 313		45.4 50,644		0.1 89	76.3 85,194
Total	Pct. of Sample No. in Catch Std. Error		36,849	60.7 67,764 1,784		89	100.0 111,599

⁽¹⁾ Based on catch summaries from fish tickets and age composition data from a stratified systematic sampling program, (Sharr, 1988).

Table 15. Commercial drift gillnet catch by species by period for the Bering River district, 1987.

Stat Area 200 Drift Gillnet

					CHI	NOOK	SOC	KEYE	CO	HO	P:	INK	CI	MUE
PERIOD	DATES FISHED	EOURS FISHED	PERMITS	LANDINGS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS
1	6/15-6/1	5 24	8	11	10	325	2,013	14,005	0	0	0	0	0	0
2	6/22-6/2	3 36	19	42	17	429	13,607	90,964	0	0	3	12	0	0
3	6/29-6/3	36	5	6	2	58	419	2,933	0	0	0	'o	0	0
4	7/02-7/0:	3 24	1	. 1	0	0	125	750	0	0	0	: 0	0	0
5	7/06-7/0	7 24	2	. 4	1	15	339	2,042	0	0	0	. 0	0	0
13	8/3-8/4	36	2	. 2	0	C	8	53	119	948	1	4	. 0	. 0
15	8/10-8/1	3 72	4	. 7	0	c	23	136	315	2,180	21	95	Ō	0
16	8/17-8/2	0 72	36	90	2	44	265	2,150	5,023	42,318	11	42	0	0
17	8/24-8/2	6 48	. 88	212	2	65	127	1,035	10,407	88,775	18	91	7	37
TOTALS			109	375	34	936	16,926	114,068	15,864	134,221	54	244	7	37

Table 16. Commercial salmon catch by species in the Bering River District, 1971 - 1987.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1971	105	36,776	88,231	4	0	125,116
1972	107	51,445	19,825	3	1	71,381
1973	285	15,426	65,348	2	5	81,066
1974	32	4,208	28,615	7	2	32,864
1975	162	21,637	24,162	0	0	45,961
1976	228	30,908	42,423	43	1	73,603
1977	127	14,445	47,218	192	221	62,203
1978	331	33,554	91,097	266	2,391	127,639
1979	385	139,015	114,046	6,895	23,094	283,435
1980	0	· _{1.7} 0	108,872	0	0	108,872
1981	200	55,585	82,626	9,882	8,307	156,600
1982	254	129,667	144,752	47	333	275,053
1983	610	179,273	117,669	851	4,615	303,018
1984	330	91,784	214,632	309	20,408	327,463
1985	215	26,561	419,276	214	9,642	455,908
1986	128	19,038	115,809	. 15	243	135,233
10 Year						
Average(1) (1977-86)) 287	76,547	145,600	2,075	7,695	223,542
1987	34	16,926	15,864	54	7	32,885

⁽¹⁾ Average of years fished. In 1980 the season did not open until August 11.

Table 17. Estimated age and sex composition of sockeye salmon in the commercial catches from the drift gillnet fishery in the Bering River District, 1987.(1)

		1984		Year ar 983	nd Age Gr 1982	oup 1981		
		0.2	0.3	1.2	1.3	2.3	Total	
Stratum Dates: Sample Dates: Sample Size:	6/15 - 8/26 6/23 534				· • • • • • • • • • • • • • • • • • • •			
Female	Percent of Sample Number in Catch	0.0	17.6 2,979	1.7 288	24.2 4,096	0.2	43.7 7,397	
Male	Percent of Sample Number in Catch	0.7 118	22.3 3,774	3.2 542	30.1 5,095	0.0	56.3 9,529	
Total	Percent of Sample Number in Catch Standard Error	0.7 118 61	39.9 6,753 359	4.9 830 158	54.3 9,191 365	0.2 34 33	. 100.0 16,926	

⁽¹⁾ Based on catch summaries from fish tickets and age composition data from a stratified systematic sampling program, (Sharr, 1988).

Table 18. Estimated age and sex composition of coho salmon in the commercial catches from the Bering River District drift gillnet fishery, 1987.(1)

		Brood	Year and Age	Group	•
		1984	1983	1982	
		1.1	2.1	3.1	Total
Catch Dates: Sample Dates: Sample Size:	6/14 - 8/29 8/27 452				
Female	Percent of Sample Number in Catch	7.3 1,158		1.8 285	
Male	Percent of Sample Number in Catch	16.2 2,570		3.3 524	68.1 10,804
Total	Percent of Sample Number in Catch Standard Error	23.5 3,728 317	71.4 11,327	5.1 809 164	100.0 15,864

⁽¹⁾ Based on catch summaries from fish tickets and age composition data from a stratified systematic sampling program, (Sharr, 1988).

Table 19. Commercial catch of salmon by species, by period, by gear type in the Coghill District, Prince William Sound, 1987.

	Fishing Time	5	<u>.</u>	Cat	ch by Sp	pecies		•
Dates	(Hrs)	Effort	Chinook	Sockeye	Coho	Pink	Chum	Total
DRIFT GILLNET								
6/15-6/18	87	82	40	8,249	2	2,179	17,534	28,004
6/22-6/25	87	243	87	41,737	45	6,432	68,540	116,841
6/29-7/01	63	277	. 39	75,724	131	14,154	55,877	145,925
7/06-7/07	24	230	14	30,939	20	12,586	42,895	86,454
7/13-7/17	105	355	46	143,972	362	171,788	73,689	389,857
7/21-7/23	63	290	23	48,615	223	130,261	25,183	204,305
7/28-7/30	63	217	92	22,814	709	129,023	20,184	172,822
8/04-8/07	87	120	10	3,123	513	61,807	8,327	73,780
8/11-8/14	87	34	0	409	473	45,240	2,056	48,178
8/17-8/21	111	28	0	747	1,709	63,879	1,745	68,080
8/26-8/28	63	. 28	1	380	1,611	25,143	657	27,792
8/31-9/04	111	37	0	650	5,241	45,501	1,824	53,216
9/07-9/11	99	34	0	95	2,357	4,904	331	7,687
Total Gillnet		412	352	377,454	13,396	712,897	318,842	1,422,941

PURSE SEINE								,
7/06-7/07	24	12	 1	1,187	3	10,489	7,254	18,934
7/13-7/17	105	99	49	35,471	582	209,615	40,514	286,231
7/21-7/23	63	9	1	496	51	29,066	3,256	32,870
7/28-7/30	63	3	0	195	29	27,923	535	28,682
8/04-8/07	87	37	6	750	249	- 159,713	3,124	163,842
8/11-8/14	87	23	1	402	226	260,982	3,286	264,897
8/17-8/21	111	16	0	356	718	157,889	1,198	160,161
8/26-8/28	63	5	0	41	72	9,245	82	9,440
8/31-9/04	111	2	0	1	26	749	3	779
9/07-9/11	99	0	0	0	0	0	0	0
Total Purse	Seine	134	58	38,899	1,956	865,671	59,252	965,836

(Continued)

COMBINED GEAR

6/15-6/18	a/b/	87	82	40	8,249	2	2,179	17,534	28,004
6/22-6/25		87	243	87	41,737	45	6,432	68,540	116,841
6/29-7/01	c/	63	277	39	75,724	131	14,154	55,877	145,925
7/06-7/07	d/e/	24	242	15	32,126	23	23,075	50,149	105,388
7/13-7/17	f/g/	105	454	95	179,443	944	381,403	114,203	676,088
7/21-7/23		63	299	24	49,111	. 274	159,327	28,439	237,175
7/28-7/30		63	220	92	23,009	738	156,946	20,719	201,504
8/04-8/07		87	157	16	3,873	762	221,520	11,451	237,622
8/11-8/14	h/	87	57	1	811	699	306,222	5,342	313,075
8/17-8/21	•	111	44	0	1,103	2,427	221,768	2,943	228,241
8/26-8/28		63	33	1	421	1,683	34,388	739	37,232
8/31-9/04	i/	111	39	0	651	5,267	46,250	1,827	53,995
9/07-9/11		99	34	0	. 95	2,357	4,904	331	7,687
Total All	Gear		546	410	416,353	15,352	1,578,568	378,094	2,388,777

- a/ Coghill District opened to regular weekly fishing periods for drift gillnets effective 6:00 a.m., Monday, June 15th.
- b/ Effective 6:00 a.m, June 15 the inside waters on the southern shoreline of Esther Island north of a line extending from Hodgkins Point to Esther Light, including waters of Lake and Quillian bays are closed until further notice.
- c/ The Coghill District is closed to fishing after 9:00 p.m.,
 July 1. Following this closure and until further notice,
 the weekly fishing schedule in these districts will be 6:00 a.m,
 Monday until 9:00 p.m., Wednesday. In the Coghill District, the
 early season closure line across College Fjord will remain in effect
 until further notice.
- d/ The Esther Hatchery secondary terminal harvest area in the southern portion of the Coghill District open from 12:00 noon, July 6th to 12:00 noon, July 8th, a 48 hour period. The remainder of the Coghill District will be closed until further notice.
 - The Coghill District by regulation is open to seine gear only during scheduled periods following the 5th of July.
- e/ The length of the fishing period in the Coghill District will be reduced to 24-hours closing at 12:00 noon, July 7th.
- f/ Normal late season closed waters at the mouth of the Coghill River in effect after 12:00 noon, July 13th.
- g/ Effective 12:00 noon, July 14th until 9:00 p.m., no closed waters in front of Coghill River.
- h/ The santuary waters of Lake and Quinllian bays in front of the Esther Hatchery will be open during this commercial fishing period. The precise opening time will be announced at the hatchery by marine VHF radio on channel 7.
- i/ This 5-day per week fishing schedule (Mon.- Fri.) will remain in effect for 2-weeks after August 31. All Prince William Sound salmon districts will close for the season effective at 9:00 a.m., September 11th.

Table 20. Commercial salmon catch by species in the Coghill District, 1971 - 1987.

Catch b	y Spe	cies
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DRIFT GILLNET 1971		Peak						
1971 133 73 29,862 54 4,006 11,149 45 1972 142 67 134,628 296 5,961 18,503 159 1973 160 144 74,426 237 61,328 68,311 204 1974 212 156 95,610 103 98,149 51,428 245 1975 311 525 142,864 357 99,492 32,438 275 1976 229 102 54,334 72 53,219 89,170 196 1977 207 124 154,342 49 332,859 127,476 614 1978 420 469 193,899 64 49,527 110,679 354 1979 247 543 75,753 1,837 259,372 56,916 394 1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1977 47 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1978 25 266 9,623 34 13,059 14,007 36 1977 47 40 16,436 50 230,215 37,102 283 1978 25 266 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191	Year	Effort	Chinook	Sockeye	Coho	Pink	Chum	Total
1972 142 67 134,628 296 5,961 18,503 159 1973 160 144 74,426 237 61,328 68,311 28 1974 212 156 95,610 103 98,149 51,428 245 1975 311 525 142,864 357 99,492 32,438 275 1976 229 102 54,334 72 53,219 89,170 16 1977 207 124 154,342 49 332,859 127,476 614 1978 420 469 193,899 64 49,527 110,679 354 1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 344 13,059 14,007 36 1978 25 206 9,623 34 13,059 14,007 36 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1984 6 0 21 0 10,911 1,126 12 1985 96 18 6 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208	DRIF	r GILLNE	T					
1973 160 144 74,426 237 61,328 68,311 204 1974 212 156 95,610 103 98,149 51,428 245 1975 311 525 142,864 357 99,492 32,438 275 1976 229 102 54,334 72 53,219 89,170 196 1977 207 124 154,342 49 332,839 127,476 614 1978 420 469 193,899 64 49,527 110,679 354 1979 247 543 75,753 1,837 259,372 56,916 394 1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1971 68 348 15,652 393 64,877 41,680 122 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 1074 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1984 6 0 21 0 10,911 1,126 12 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208		133	73	29,862	54	4,006	11,149	45,144
1974 212 156 95,610 103 98,149 51,428 245 1975 311 525 142,864 357 99,492 32,438 275 1976 229 102 54,334 72 53,219 89,170 196 1977 207 124 154,342 49 332,859 127,476 614 1978 420 469 193,899 64 49,527 110,679 354 1979 247 543 75,753 1,837 259,372 56,916 394 1980 112 107 56,957 1,053 355,664 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 61 1977 47 40 16,436 50 29,215 37,102 283 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 78 10 Year Average 123 8,020 39 172,428 27,694 208	1972	142	67	134,628	296	5,961	18,503	159,455
1975 311 525 142,864 357 99,492 32,438 275 1976 229 102 54,334 72 53,219 89,170 196 1977 207 124 154,342 49 332,859 127,476 614 1978 420 469 193,899 64 49,527 110,679 354 1979 247 543 75,753 1,837 259,372 56,916 394 1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 50,140 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 61 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 198 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 17 10 Year Average 123 8,020 39 172,428 27,694 208		160	144	74,426	237	61,328	68,311	204,446
1976 229 102 54,334 72 53,219 89,170 196 1977 207 124 154,342 49 332,859 127,476 614 1978 420 469 193,899 64 49,527 110,679 354 1979 247 543 75,753 1,837 259,372 56,916 394 1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 1984 6 0 21 0 0,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208				95,610	103	98,149	51,428	245,446
1977 207 124 154,342 49 332,859 127,476 614 1978 420 469 193,899 64 49,527 110,679 354 1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1971 68 348 15,652 393 64,877 41,680 122 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208					357		32,438	275,676
1978 420 469 193,899 64 49,527 110,679 354 1979 247 543 75,753 1,837 259,372 56,916 394 1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208				7		53,219	89,170	196,897
1979				154,342	49	332,85 9	127,476	614,850
1980 112 107 56,957 1,053 355,684 68,071 481 1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191					64	49,527	110,679	354,638
1981 171 152 101,058 1,008 526,739 131,399 760 1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208				•				394,421
1982 289 127 929,965 213 181,925 252,077 1,364 1983 403 340 38,273 1,013 233,263 234,022 506 1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208								481,872
1983								760,356
1984 374 396 94,956 563 897,496 264,878 1,258 1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191								1,364,307
1985 362 380 339,296 1,131 454,531 246,824 1,042 1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191								506,911
1986 411 617 381,565 789 68,887 218,971 670 10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191							264,878	1,258,289
10 Year Average 326 236,606 772 336,028 171,131 744 (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191								1,042,162
Average (1977-86) 1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 803 864,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208	1986	411	617	381,565	789	68,887	218,971	670,829
1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208	10 Ye	ear						
1987 352 377,454 13,396 712,897 318,842 1,422 PURSE SEINE	Avera	age	326	236,606	772	336,028	171,131	744,864
PURSE SEINE 1971 68 348 15,652 393 64,877 41,680 122 1972 NO FISHING 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191	(197	7-86)				•	• •	
1971 68 348 15,652 393 64,877 41,680 122 1972	1987		352	377,454	13,396	712,897	318,842	1,422,941
1972 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208	PURSI	E SEINE						
1972 1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208	1971	 68	348	15 652	303	64 877	41 680	122,950
1973 73 40 2,856 18 68,918 16,403 88 1974 45 192 4,273 22 54,268 7,720 66 1975 45 246 4,985 30 145,155 2,561 152 1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191		•	340	13,032			41,000	0
1974		73	40	. 2.856			16 403	88,235
1975								66,475
1976 111 83 6,159 29 56,967 30,328 93 1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208								152,977
1977 47 40 16,436 50 230,215 37,102 283 1978 25 206 9,623 34 13,059 14,007 36 1979 29 692 3,047 55 38,560 5,709 48 1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208								93,566
1978								283,843
1979								36,929
1980 5 0 2,159 0 134,876 4,702 141 1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191								48,063
1981 15 1 1,997 0 34,083 23,378 59 1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191						-		141,737
1982 11 23 17,466 29 1,006,579 135,553 1,159 1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208								59,459
1983 12 0 175 16 41,048 8,958 50 1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191 10 Year Average 123 8,020 39 172,428 27,694 208						-		1,159,650
1984 6 0 21 0 10,911 1,126 12 1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191				-				50,197
1985 57 85 10,757 112 69,242 19,330 99 1986 94 186 18,514 98 145,706 27,078 191								12,058
1986 94 186 18,514 98 145,706 27,078 191								99,526
Average 123 8,020 39 172,428 27,694 208				•				191,582
Average 123 8,020 39 172,428 27,694 208	10 😎	 ear						
(1977-86)			123	8,020	39	172,428	27,694	208,304
<u></u>	(197	7-86)					_	
1987 58 38,899 1,956 865,671 59,252 965	1987		58	38,899	1,956	865,671	59,252	965,836

Table 20. Commercial salmon catch by species in the Coghill District, 1971 - 1987(continued).

ъ	a a 1=		(Catch by	Species		
Year Ef	eak fort	Chinook	Sockeye	Coho	Pink	Chum	Total
COMBINE	D GEA	R			·		
1971	201	421	45,514	447	68,883	52,829	168,094
1972	142	67	134,628	296	5,961	18,503	159,455
1973	233	184	77,282	255	130,246	84,714	292,681
1974	257	· 348	99,883	125	152,417	59,148	311,921
1975	356	771	147,849	389	244,647	34,999	428,655
1976	340	185	60,493	101	110,186	119,498	290,463
1977	254	164	170,778	99	563,074	164,578	898,693
1978	445	675	203,522	98	62,586	124,686	391,567
1979	276	1,235	78,800	1,892	297,932	62,625	442,484
1980	117	107	59,116	1,053	490,560	72,773	623,609
1981	186	153	103,055	1,008	560,822	154,777	819,815
1982	300	150	947,431	242	1,188,504	387,630	2,523,957
1983	415	340	38,448	1,029	274,311	242,980	557,108
1984(1)	380	396	94,977	563	908,407	266,004	1,270,347
1985	419	465	350,053	1,243	523,773	266,154	1,141,688
1986	505	803	400,079	887	214,593	246,049	862,411
10 Year Average (1977-8		449	244,626	811	508,456	198,826	953,168
1987		410	416,353	15,352	1,578,568	378,094	2,388,777

⁽¹⁾ Preliminary, unresolved discrepencies exist in the fish ticket summaries.

Table 21. Salmon escapement by species in the Coghill District, 1968 - 1987.

Year	Sockeye(1)	Pink(2)	Chum(2)
1968 ·	11,800	2,650	12,640
1969	81,000	72,000	34,600
1970	35,200	18,580	3,080
1971	15,000	500,000	10,200
1972	51,000	7,770	11,700
1973	55,000	543,150	73,600
1974	22,333	42,660	39,700
1975	34,855	570,950	7,100
1976	9,056	50,930	35,750
1977	31,562	338,750	41,640
1978	42,284	75,270	13,550
1979	48,281	66,230	13,150
1980	142,253	182,430	12,610
1981	156,112	444,700	30,740
1982	180,314	264,420	24,150
1983	38,783	311,200	62,800
1984	63,622	468,040	24,460
1985	163,311	299,350	23,290
1986	71,095	115,800	19,320
1987	187,263	147,060	24,510
0 Year verage	72,006	226,097	25,930

⁽¹⁾ Escapement count of sockeye salmon past the Coghill River weir.

⁽²⁾ Pink and Chum escapements estimated for streams in district by aerial surveys.

Table 22. Salmon escapement through the Coghill River weir, 1987.

	Soc	keye(1)	Pi	nk	Chu	m	Ki	ng
Date	Daily	Cum.	Daily	Cum.	Daily	Gum.	Daily	Cum.
06/10	1	1	0	0	0	0	0	0
06/11	0	1	0	0	0	0	0	0
06/12	0	1	0	0	0	0	. 0	0
06/13	1	2	0	0	0	0	0	0
06/14	0	2	0	0	0	0	0	0
06/15	0	2	0	0	0	0	⁷ 0	0
06/16	0	2	. 0	0	0	0	. 0	. 0
06/17	0	2	0	0	0	0	0	0
06/18	0	2	0	0	0	0	0	0
06/19	1	3	0	0	0	0	0	0
06/20	0	3	0	0	0	0	0	0
06/21	115	118	0	0	0	0	0	0
06/22	1,341	1,459	0	0	0	0	0	0
06/23	622	2,081	0	0	0	0	0	0
06/24	0	2,081	0	0	o o	0	. 0	0
06/25	0	2,081	0	0	0	0	0	0
06/26	0	2,081	0	Ó	0	0	0	0
06/27	676	2,757	0	0	0	0	2	2
06/28	434	3,191	2	2	0	0	1	3
06/29	2,638	5,829	Ō	. 2	0	0	0	3
06/30	618	6,447	Ō	2	Ō	0	0	3
07/01	695	7,142	. 0	2	. 0	Ō	0	3
07/02	481	7,623	0	2	Ō	Ō	1	4
07/03	1	7,624	Ō	2	Ō	Ö	0	. 4
07/04	154	7,778	0	2	0	. 0	0	4
07/05	46	7,824	Ö	2	0	Ō	0	4
07/06	1,563	9,387	21	23	11	11	0	4
07/07	772	10,159	39	62	1	12	0	4
07/08	190	10,349	31	93	ō	12	ī	5
07/09	1,202	11,551	186	279	ō	12	1	6
07/10	4,968	16,519	408	687	5	17	ō	6
07/11	20,268	36,787	1,212	1,899	32	49	. 0	6
07/12	46,399	83,186	2,841	4,740	22	71	Ö	6
07/13	44,243	127,429	4,945	9,685	30	101	3	9
07/14	27,102	154,531	6,493	16,178	41	142	1	10
07/15	5,260	159,791	3,303	19,481	6	148	0	10
07/16	2,618	162,409	7,206	26,687	13	161	Ŏ	10
07/17	50	162,459	400	27,087	0	161	Ŏ	10
07/18	252	162,711	245	27,332	6	167	Ö	10
07/19	3,340	166,051	1,658	28,990	18	185	1	11
07/20	9,622	175,673	3,197	32,187	36	221	0	11
07/20	7,047	182,720	3,166	35,353	30	251	0	11
07/21	3,778	186,498	2,990	38,343	31	282	0	1.1
07/22	765	187,263	3,100	41,443	. 5	287	0	11
U1/43		101,203	J, 100	41,443	J			

⁽¹⁾ Sockeye count includes 2,542 jack salmon.

Table 23. Estimated age and sex composition of the sockeye salmon in the Coghill District drift gillnet and purse seine fisheries and the sockeye salmon escapement to Coghill Lake, Prince William Sound, 1987 (1).

		•	1004			d Year and		oup	1.001	1000	
		-	1984		1983 		1982 		1981	1980	
		0.2	1.1	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
-	ates: 6/14-8/08 Dates: 6/19-7/23 Size: 2,739									•	
Female	Pct. of Sample No. in Catch	0.0	0.1	0.2	0.7	51.2	0.4	0.3	3.2	0.0	56.1
	No. in Gaten	0	575	801	3,047	213,208	1,727	1,237	13,163	0	233,75
Male	Pct. of Sample No. in Catch	0.0 100	0.1 316	0.2 801	1.4 5,913	39.5 164,3 <u>7</u> 5	0.5 2,124	0.3 1,083	1.7 7,281	0.1 602	43.9 182,59
Cotal	Pct. of Sample	0.0	0.2	0.4	2.2	90.7	0.9	0.6	4.9	0.1	100,0
	No. in Catch Std. Error	100 97	891 453	1,602 399	8,960 1,339	377,583 2,949	3,851 1,013	2,320 871	20,444	602 422	416,35
	********************************					Age Group					
		-	1984 		1983 		1982 		1981 	1980	
		0.2	1.1	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
_	Dates: 6/10-8/08 Dates: 6/27-7/20 Size: 1,781									-	
Female	Pct. of Sample	0.0	0.0	0.0	0.9	46.1	0.7	0.2	3.8	0.0	51.
	No. in Escape.	0	0	0	1,754	86,308	1,310	309	7,037	0	96,71
Mal e	Pct. of Sample	0.0	0.3	0.0	0.6	44.2	0.4	0.0	2.9	.0.0	48.
	No. in Escape.	. 0	480	0	1,138	82,726	731	16	5,504	0	90,59
otal	Pct. of Sample	0.0	0.3	0.0	1.5	90.2	1.1	0.2	6.7	0.0	100.
	No. in Escape.	0	084	0	2,892	169,034	2,041	325	12,541	0	187,31
 -	Std. Error	0 	349	0	782 	1,953	697 	285	1,651	0	
Sample N	Esc.: 6/10-7/23 Dates: 6/19-7/23 Size: 1,781										
	Pct. of Sample	0.0	0.1	0.1	0.8	49.6	0.5	0.3	3.3	0.0	54.
emale	_	0	575	801	4,801	299,516	3,037	1,546	20,200	0	330,47
emale	Catch & Esc.	-									
	Catch & Esc. Pct. of Sample	0.0	0.1	0.1	1.2	40.9	0.5	0.2	2.1	0.1	45.
	1	_	0.1 796	0.1 801	1.2 7,051		0.5 2,855	0.2 1,099	2.1 12,785		
Male	Pct. of Sample Catch & Esc.	0.0		801	7,051	247,101	2,855	1,099	12,785	602	45. 273,19
Female Male Total	Pct. of Sample	0.0	796			247,101 90.5					

⁽¹⁾ The majority of the fish sampled from the commercial catch were from the gillnet fishery but all tenders sampled after seining opened in the district had at least some seine caught fish.

Table 24. Commercial catch of salmon by species, by period, by gear type in the Unakwik District, Prince William Sound, 1987.

	Fishin	ıg						
Dates	Time (Hrs)	Effort	Chinook	Sockeye	Coho	Pink	Chum	Total
DRIFT GILLN	ET				-			
6/15-6/18	 87	0	0	0	0	0	0	0
6/22-6/25	87	11	2	1,184	0	5	22	1,213
6/29-7/01	63	6	0	535	0	20	186	741
7/06-7/08	48	7	0	978	1	116	381	1,476
7/13-7/16	81	7	0	3,094	0	3,869	714	7,677
7/21-7/23	63	0	0	0	. 0	0	0	. 0
7/28-7/30	63	· 1	0	46	0.	95	18	159
8/04-8/06	63	1	0	57	0	766	35	858
8/11-8/13	63	0	0	0	0	0	0	0
8/17-8/21	111	0	0	0	0	0	0	0
8/26-8/28	63	0	0	. 0	0	0	0	0
8/31-9/04	111	0	0	0	0:	0	0	0.
9/07-9/11	99	0	0	0	0	0	0	0
Total Gillr	iet	19	2	5,894	1	4,871	1,356	12,124
PURSE SEINE	ξ							
6/15-6/18		0	 0		0			
6/22-6/25	87 87	0	0	0	0	0	0	0
6/29-7/01	63	0	0	0	0.	0	0	0
7/06-7/08	48	0	0	0	0	0	. 0	. 0
7/13-7/16	81	1	0	0	0	1,159	0	1,159
7/21-7/23	63	3	0	69	0	5,465	1,952	7,486
7/28-7/30	63	1	0	6	0	4,017	865	4,888
8/04-8/06	63	9	Ö	17	Ő	50,942	2,718	53,677
8/11-8/13	63	7	Ŏ	15	0	44,055	582	44,652
8/17-8/21	111	1.2	0	39	Ö	82,114	432	82,585
8/26-8/28	63	0	0	0	Ō	0.	0	0
8/31-9/04	111	0	0	0	0	0	0	0
9/07-9/11	99	0	0	0	0	0.	0	0
Total Purse	Seine	25	0	146	0	187,752	6,549	194,447
COMBINED GE	EAR							
6/15-6/18	87	0	0	0	0	0	0	0
6/22-6/25	87	11	2	1,184	0	- 5	22	1,213
6/29-7/01	63	6	0	535	ő	20	186	741
7/06-7/08	48	7	0	978	1	116	381	1,476
7/13-7/16	81	8	Ö	3,094	0	5,028	714	8,836
7/21-7/23	63	3	Ō	69	Ō	5,465	1,952	7,486
7/28-7/30	63	2	0	52	Ö	4,112	883	5,047
8/04-8/06	63	10	Ö	74	Ö	51,708	2,753	54,535
8/11-8/13	63	7	Ö	15	Ö	44,055	582	44,652
8/17-8/21	111	12	Ô	39	0	82,114	432	82,585
8/26-8/28	63	0	0	0	0	0	0	, o
8/31-9/04	111	0	0	0	0	0	0	0
9/07-9/11	99	0	0	0	0	0	0	0
Total All G	Gear	44	2	6,040	1	192,623	7,905	206,571

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Table 25. Commercial salmon catch by species in the Unakwik District, 1971 - 1987.

Year Effort Chinook Sockeye Coho Fink Chum Total DRIFT GILLNET 1971		Doole		Uatt	n by Si	рест	E S		
1971 6 0 1,470 0 111 216 1,797 1972 13 2 10,010 0 3,445 859 14,316 1973 12 1 8,858 0 119 91 9,069 1974 16 5 10,449 3 10,911 500 21,868 1975 14 4 11,922 0 84 70 12,080 1976 15 4 8,421 0 2,744 331 11,500 1977 16 3 7,912 2 257 141 8,315 1978 22 24 9,116 0 2,082 597 11,819 1979 30 11 9,250 9 2,359 289 11,918 1980 3 0 1,547 6 4,815 727 7,095 1981 7 0 2,445 0 4,152 1,330 7,927 1982 19 1 48,947 0 335 598 49,881 1983 62 3 13,215 0 1,515 1,426 16,159 1984 2 18,522 0 27,742 7,125 53,391 1985 26 27,532 22 9,191 3,942 40,713 1986 5 25,759 1 1,973 2,463 30,201 10 Year Average 8 16,425 4 5,442 1,864 23,742 PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 1972 NO FISHING 1974 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1977 NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING 1971 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Year	Peak Effort	Chinook	Sockeye	Coho)	Pink	Chum	Total
1972	DRIFŢ	GILLNET							·
1972	1971	6	0	1.470)))	111	216	1.797
1973									
1974							-		
1975									
1976									
1977				•					
1978									
1979 30 11 9,250 9 2,359 289 11,918 1980 3 0 1,547 6 4,815 727 7,095 1981 7 0 2,445 0 4,152 1,330 7,927 1982 19 1 48,947 0 335 598 49,881 1983 62 3 13,215 0 1,515 1,426 16,159 1984 2 18,522 0 27,742 7,125 53,391 1985 26 27,532 22 9,191 3,942 40,713 1986 5 25,759 1 1,973 2,463 30,201 10 Year Average 8 16,425 4 5,442 1,864 23,742 PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 1972 NO FISHING 1973 NO FISHING 1974 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING 1979 NO FISHING 1979 NO FISHING 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 4,066 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469 10 Year Average 0 86 1 37,323 4,723 36,867 (1977-86)									
1980									
1981				,					
1982									-
1983 62 3 13,215 0 1,515 1,426 16,159 1984 2 18,522 0 27,742 7,125 53,391 1985 26 27,532 22 9,191 3,942 40,713 1986 5 25,759 1 1,973 2,463 30,201 10 Year Average 8 16,425 4 5,442 1,864 23,742 (1977-86) 1987 2 5,894 1 4,871 1,356 12,124 PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 1972 NO FISHING 1974 NO FISHING 1975 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING 1979 NO FISHING 1979 NO FISHING 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 4,066 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469 10 Year Average 0 86 1 37,323 4,723 36,867 (1977-86)				•			•		=
1984									
1985		72		•				•	
1986 5 25,759 1 1,973 2,463 30,201 10 Year Average 8 16,425 4 5,442 1,864 23,742 (1977-86) 1987 2 5,894 1 4,871 1,356 12,124 PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 NO FISHING 1975 NO FISHING NO FISHING NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING NO FISHING NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING NO FISHI				-					
10 Year Average 8 16,425 4 5,442 1,864 23,742 (1977-86) 1987 2 5,894 1 4,871 1,356 12,124 PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 1972 NO FISHING 1973 NO FISHING 1974 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469							-		
Average (1977-86) 1987 2 5,894 1 4,871 1,356 12,124 PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 1972 NO FISHING 1973 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1978 24 3 268 5 55,115 1979 NO FISHING 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 716 71986 NO FISHING 1985 10 Year Average 0 86 1 37,323 4,723 36,867									
(1977-86) 1987 2 5,894 1 4,871 1,356 12,124 PURSE SEINE 1971 6 0 38 68 14,207 NO FISHING 1972 NO FISHING 1974 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 1983 2 0 6 0 3,344 716 4,066 1983 2 0 6 0 3,344 716 716 716 716 717 717 718 718			_						•
1987 2 5,894 1 4,871 1,356 12,124 PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 1972 NO FISHING 1973 NO FISHING 1974 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 4,066 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469 10 Year Average 0 86 1 37,323 4,723 36,867	-	•	. 8	16,425		ŀ	5,442	1,864	23,742
PURSE SEINE 1971 6 0 38 68 14,207 1,621 15,934 1972 NO FISHING 1973 NO FISHING 1974 NO FISHING 1975 NO FISHING 1976 4 0 7 0 8,526 225 8,758 1977 NO FISHING 1978 24 3 268 5 55,115 5,025 60,416 1979 NO FISHING 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 4,066 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469 10 Year Average 0 86 1 37,323 4,723 36,867 (1977-86)	(1977-	-86) 							
1971 6 0 38 68 14,207 1,621 15,934 1972	1987		2	5,894	. 3		4,871	1,356	12,124
1972 1973 1974 1974 1975 1976 1977 1978 24 3 268 5 55,115 5,025 60,416 1979 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 7 108 0 7 108 0 7 108 0 7 108 108 109 108 108 108 109 108 108 108 108 108 108 108 108 108 108	PURSE	SEINE							
1972 1973 1974 1974 1975 1976 1977 1978 24 3 268 5 55,115 5,025 60,416 1979 1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 7 108 0 7 108 0 7 108 0 7 108 108 109 108 108 108 109 108 108 108 108 108 108 108 108 108 108	1971	6	0	38	68	1	 4.207	1.621	15 934
1973 1974 1975 1976 1977 1977 1978 1977 1978 1979 1980 1981 1981 1982 1982 1983 1984 1984 1985 1985 10 10 10 10 10 10 10 10 10 10 10 10 10		_	•	•				_,	20,70,
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1978							-		
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1980 3 0 6 0 9,113 355 9,474 1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 4,066 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469 10 Year Average 0 86 1 37,323 4,723 36,867 (1977-86)			_					0,020	
1981 5 0 108 0 71,624 17,650 89,382 1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 4,066 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469 10 Year Average 0 86 1 37,323 4,723 36,867 (1977-86)		3	0	6				355	9 474
1982 6 0 2 4 89,137 517 89,660 1983 2 0 6 0 3,344 716 4,066 1984 NO FISHING 1985 0 138 0 28,210 4,123 32,471 1986 0 76 0 4,718 4,675 9,469 10 Year Average 0 86 1 37,323 4,723 36,867 (1977-86)									
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Average 0 86 1 37,323 4,723 36,867 (1977-86)									-,
(1977-86)			•	0.1		_	7 000	/ 700	06 06=
	_	_	U	86	-	. 3	7,323	4,/23	36,867
1707 0 140 0 107,732 0,349 194,447		- 		1 / 4		10	7 750	6 5/0	10/ //7
	1901) 	, 10	1,152	0,349 =======	174,44/

Table 25. Commercial salmon catch by species in the Unakwik District, 1971 - 1987(continued).

Catch by Species

	Peak			<i></i>			
Year	Effort	Chinook	Sockeye	Coho	Pink	Chum	Total
COMBIN	NED GEAR						
1971	12	0	1,508	68	14,318	1,837	17,731
1972	13	2	10,010	0	3,445	859	14,316
1973	12	1	8,858	0	119	91	9,069
1974	16	5	10,449	3	10,911	500	21,868
1975	14	4	11,922	0	84	70	12,080
1976	19	4	8,428	0	11,270	556	20,258
1977	16	3	7,912	2	257	141	8,315
1978	46	27	9,384	5	57,197	5,622	72,235
1979	30	11	9,250	9	2,359	289	11,918
1980	6	0	1,553	6	13,928	1,082	16,569
1981	12	0	2,553	0	75,776	18,980	97,309
1982	25	1	48,949	4	89,472	1,115	139,541
1983	64	3	13,221	0	4,859	2,142	20,225
1984	0	2	18,522	0	27,742	7,125	53,391
1985	0	26	27,670	22	37,401	8,065	73,184
1986		5	25,835	1.	6,691	7,138	39,670
10 Ye	 ar						
Averag	ge	8	16,485	5	31,568	5,170	53,236
1987		2	6,040	1	192,623	7,905	206,571

Table 26. Estimated age and sex composition of sockeye salmon in the catches in the Unakwik District drift gillnet fishery, 1987(1)

				Brood	Year and				
		19	983	19	982	_	981	1980	
		0.3	1.2	1.3	2.2				Total
Catch Dates:	6/14 - 8/06					·			
Sample Dates:	6/27					•			•
Sample Size:	.640					•			
Female	Percent of Sample	0.2	0.5	48.7	0.0	0.2	5.5	0.2	55.3
	Number in Catch	12	29	2,870	0	12	324	12	3,259
Male	Percent of Sample	0.3	1.8	36.2	0.5	1.1	4.8	0.0	44.7
	Number in Catch	18	106	2,134	29	65	283	. 0	2,635
Total	Percent of Sample	0.5	2.3	84.9	0.5	1.3	10.3	0.2	100.0
	Number in Catch	30	135	5,004	29	77	607	12	5,894
	Standard Error	16	. 35	83	16	26	71	10 .	

⁽¹⁾ There are a very small number of sockeye samon caught (146 fish) in purse seines in this district, but they were not caught during the period sampled and are not included in this table.

Table 27. Commercial catch of salmon by species, by period, by gear type in the Eshamy District, Prince William Sound, 1987.(1)

	Fishin	g Catch by Species									
Dates	Time (Hrs)	Effort	Chinook	Sockeye	Coho	Pink	Chum	Total			
DRIFT GILLN	IET							<u>- 1 </u>			
6/15-6/20	138	6	2	389	0	151	1,293	1,835			
6/21-6/27	168	4	0	52	0	9	905	966			
6/28-7/05	168	5	0	21	0	48	4,605	4,674			
7/24-7/25	36	2	0	2	0	3 35	82	419			
7/26-8/01	102	3	0	9	0	. 89	27	125			
8/02-8/08	168	1	0	0	0	441	26	467			
8/09-8/15	168	3	0	75	0	1,402	86	1,563			
8/16-8/22	168	2	0	47	0	502	14	563			
8/23-8/29	168	1	0	47	3	248	22	320			
Total Drift	: GN	19	2	642	3	3,225	7,060	10,932			
SET GILLNET	1										
6/15-6/20	138	17	12	489	0	49	5,451	6,001			
6/21-6/27	168	16	6	317	0	226	7,679	8,228			
6/28-7/04	168	12	5	83	0	44	12,447	12,579			
7/05	12	14	3	195	0	74	9,754	10,026			
7/24-7/25	36	13	0	67	2	1,700	3,015	4,784			
7/24-7/25	102	13	0	261	30	6,254	1,433	7,978			
7/24-7/25	168	19	4	708	120	27,455	3,212	31,499			
7/24-7/25	168	15	0	1,096	38	23,529	887	25,550			
7/24-7/25	168	14	1	1,723	26	22,258	931	24,939			
7/24-7/25	168	9	0	448	120	5,088	290	5,946			
Total Set G	N	21	31	5,387	. 336	86,677	45,099	137,530			
COMBINED GE	AR		- 			·					
6/15-6/20	138	23	14	878	0	200	6,744	7,836			
6/21-6/27	168	20	6	369	Ö	235	8,584	9,194			
6/28-7/04	168	17	5	104	Ö	92	17,052	17,253			
7/05	12	14	3	195	Ō	74	9,754	10,026			
7/24-7/25	36	15	0	69	2	2,035	3,097	5,203			
7/26-8/01	102	16	0	270	30	6,343	1,460	8,103			
8/02-8/08	168	20	4	708	120	27,896	3,238	31,966			
8/09-8/15	168	18	0	1,171	38	24,931	973	27,113			
8/16-8/22	168	16	1	1,770	26	22,760	945	25,502			
8/23-8/29	168	10	0	495	123	5,336	312	6,266			
Total All G	ear	40	33	6,029	339	89,902	52,159	148,462			

⁽¹⁾ The Crafton Island subdistrict was open only from June 15 until June 18.

Table 28. Commercial salmon catch by species in the Eshamy District 1971 - 1987.

	.		Ca	tch by Spe	ecies		
Year	Peak Effort	Chinook	Sockeye	Coho	Pink	Chum	Total
DRIFT	GILLNE:	r					
1971				CLOSED			
1972	53	49	15,117	626	20,362	15,663	51,817
1973	42	41	7,470	71	11,777	16,632	35,991
1974	146	18	12,640	114	217,141	23,488	253,401
1975				CLOSED	•	•	
1976				CLOSED			. 4
1977	53	22	16,916	49	63,036	8,344	88,367
1978				CLOSED	·	-	•
1979				CLOSED			
1980	16	0	684	25	3,235	130	4,074
1981				CLOSED			-
1982				CLOSED			
1983	· 34	1	924	8	162,541	3,427	166,901
1984	86	7	23,490	282	247,326	15,451	286,556
1985	17	1	667	0	24,899	1,021	26,588
1986	. 1	0	4	1	938	65	1,008
10 Ye	 ar						
Averag	ge	5	7,114	37	83,663	4,740	95,582
(1977	-86)		•		•	,	
1987		2	642	3	3,225	7,060	10,932
SET G	ILLNET						
1971				CLOSED			
1972	11	33	37,771	520	25,013	10,345	73,682
1973	15	28	8,969	. 78	9,724	10,914	29,713
1974	10	4	6,394	11	68,300	5,408	80,117
1975				CLOSED			
1976				CLOSED			
1977	12	9	9,889	2	24,743	4,218	38,861
1978				CLOSED			
1979				CLOSED			
1980	5	0	2,000	38	2,471	134	4,643
1981			•	CLOSED			
1982				CLOSED			
1983	16	1	1,328	10	167,942	4,463	173,744
1984	18	⁻ 5	23,226	98	278,176	3,000	304,505
1985	19	. 1	3,439	74	33,284	1,295	38,093
1986	14	9	1,043	86	42,123	5,764	49,025
10 Ye	ar						
Averag	•	4	6,821	31	91,457	3,146	101,479
(1977	-86)						
						=======	

Table 28. Commercial salmon catch by species in the Eshamy District, 1971 - 1987(continued).

	Peak						
Year	Effort	Chinook	Sockeye	Coho	Pink	Chum	Total
COMBI	NED GEAL	R					
1971			,	CLOSED			
1972		82	52,888		45,375	26,008	125,499
1973		69	16,439		21,501	27,546	65,704
1974		22	19,034		285,441	28,896	333,518
1975				CLOSED			
1976				CLOSED			• '
1977	65	31	26,805	51	87,779	12,562	127,228
1978				CLOSED			
1979				CLOSED			
1980	21	0	2,684	63	5,706	264	8,717
1981				CLOSED			
1982				CLOSED			
1983	50	2	2,252	18	330,483	7,890	340,645
1984	104	12	46,716	380	525,502	18,451	591,061
1985	36	2	4,106	74	58,183	2,316	64,681
1986	15	9	1,047	87	43,061	5,829	50,033
10 Ye	ar						
Avera (1977	.ge	9	13,935	67	175,119	7,885	197,061
1987		33	6,029	339	89,902	52,159	148,462

Table 29. Salmon weir escapement counts, Eshamy District, 1967 - 1987.

Voor			Cate	h by Spec	ies (1)		
Year	Chinook	Sockeye		Coho	Pink	Chum	. Total
1967	0	10,821		192	10,433	1	21,447
1968	1	68,048		450	919	1	69,419
1969	0	61,196		96	3,095	2	64,389
1970	0	11,460		25	387	0	11,872
1971	0	954	(2)	97 .	3,179	0	4,230
1972		28,683					28,683
1973	0 -	10,202		205	1,698	0	12,105
1974		633					633
1975		1,724					1,724
1976		19,367					19,367
1977	0	11,746		230	32,080	0	44,056
1978	0	12,580		20	552	0	13,152
1979	0	12,169		5	3,654	. 1	15,829
1980	5	44,263		128	963	2	45,361
1981	1	23,048	(3)	249	5,956	13	29,267
1982	0	6,782	(4)	79	1,056	79	7,996
1983	0	10,348		40	7,047	4	17,439
1984	2	36,121	(5)	881	3,970	. 0	40,974
1985	0	26,178		96	6,271	0	32,545
1986 1987(6)	2	6,949		55	1,004	31	8,041
20 Year	_	20,164		178	5,142	8	24,426

⁽¹⁾ Incidental passage of salmon other than sockeye were not recorded for each year.

⁽²⁾ Probably inaccurate because of holes in weir. Actual escapement is estimated to be at least 3,000.

⁽³⁾ Assuming the run was 90 percent complete, an additional 2,600 sockeye are estimated to have escaped following weir removal.

⁽⁴⁾ An estimated 270 sockeye below the weir when pulled is included in the total count.

⁽⁵⁾ An estimated 25 sockeye below the weir at removal are included in the total count.

⁽⁶⁾ The Eshamy weir was not in operation during 1987.

table 30 Commercial purse seine catch of salmon by species, by week, Prince William Sound, 1987.(1)

				Ch	inook	Soc	ckeye	Co	oho	F	ink	Chı	ıms
Dates		PermitsLa	ndings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
6/21-6/27 (2)	136	267	37	366	4,545	22,456	376	2,363	1,103,179	3,769,268	116,557	913,553
6/28-7/04 (3)	210	545	50	383	3,314	21,051	658	4,436	2,205,295	7,525,707	188,351	1,475,966
7/05-7/11 (4)	242	727	39	459	. 16,087	105,317	416	2,459	1,326,625	4,455,003	229,625	1,788,361
7/12-7/18 (5)	250	765	133	1,604	63,917	436,954	1,916	13,149	1,213,133	4,132,779	369,103	2,921,245
7/19-7/25 (6)	253	643	54	728	19,714	132,442	1,225	7,999	1,919,125	6,691,049	133,538	1,049,290
7/26-8/01 (7)	256	711	45	639	9,452	64,784	5,608	46,952	2,702,677	9,462,149	102,279	804,422
8/02-8/08 (8)	254	786	40	473	12,227	83,969	2,559	18,501	3,887,828	13,452,818	67,552	531,244
8/09-8/15 (9)	287	1,138	33	. 360	9,315	61,955	4,839	33,669	5,450,256	18,897,786	194,698	1,502,518
8/16-8/22 (10)	236	1,027	40	· 572	7,019	48,510	4,364	31,968	3,843,203	13,395,248	80,311	637,592
8/23-8/29 (11)	153	465	12	137	4,244	28,350	2,885	22,868	1,410,283	4,914,310	30,824	239,101
8/30-9/05 (12)	56	147	4	56	886	5,824	2,019	15,209	334,795	1,139,882	13,459	107,259
9/06-9/12 (13)	9	11	٥	0	0	0	135	1,170	8,377	27,729	3,291	25,810
TOTALS (14)		292	7,232	487	5,777	150,720	1,011,612	27,000	200,743	25,404,776	87,863,728	1,529,588	11,996,361

- (1) Includes the common property commercial catch of salmon from all districts open to purse seines; Eastern, Northern, Unakwik, Coghill, Northwestern, Southwestern, Montague and Southeastern Districts.
- (2) Eastern District was open for 39 hours.
- (3) Eastern and Northern districts were open for 63 and 39 hours, respectively.
- (4) Eastern and Northern districts were open for 39 hours. Coghill and Unakwik districts were open 24 hours.
- (5) Eastern, Northern, Northwestern and Southeastern districts were open for 63 hours. Coghill and Unakwik districts were open 105 hours.
- (6) Northern, Northwestern and Southeastern districts were open 63 hours; Southwestern and Montague districts were open 39 and 15 hours, respectively. Coghill and Unakwik districts were open 63 hours.
- (7) Eastern, Northern, Northwestern, Southwestern, Montague and Southeastern districts were open for 63 hours.

 Coghill and Unakwik districts were also open 63 hours.
- (8) Northern, Northwestern, Southwestern and Montague districts were open for 63 hours. Coghill and Unakwik districts were open 87 and 63 hours, respectively.
- (9) Eastern, Northern, Northwestern and Montague districts were open for 87 hours.
 Southwestern and Southeastern districts were open for 114 and 24 hours, respectively.
 Coghill and Unakwik districts were open 81 hours.
- (10) Northern, Northwestern, Southwestern and Montague districts were open for 111 hours. Eastern and Southeastern districts were open for 63 hours. Coghill and Unakwik districts were open 111 hours.
- (11) Eastern, Northern, Northwestern, Southwestern, Montague and Southeastern districts were open for 111 hours.

 Coghill and Unakwik districts were open 63 hours.
- (12) Eastern, Northern, Northwestern, Southwestern, Montague, Southeastern, Coghill and Unakwik districts were open 111 hours.
 - 3) Eastern, Northern, Northwestern, Southwestern, Montague, Southeastern, Coghill and Unakwik districts were open 99 hours.
- (14) Districts referenced as open may have been partially closed. Refer to Appendix E for details.

Table 31. Commercial catch by species in the general purse seine districts, Prince William Sound, 1971 - 1987. (1)

Year	King	Sockeye	Coho	Pink	Chum	Total
1971	3,130	41,346	30,036	7,227,763	519,599	. 7,821,874
1972(2)	396		192	2		590
1973	2,151	22,223	995	1,905,012	617,488	2,547,869
1974(2)	•		548	4	•	1,767
1975	1,744	29,842	5,753	4,208,074	65,410	4,310,823
1976	855	43,888	6,070	2,897,535	250,424	3,198,772
1977	450	104,863	691	3,861,972	395,329	4,363,305
1978	340	9,177	1,392	2,660,290	354,839	3,026,038
1979	769	61,990	4,942	15,106,016	263,500	15,437,217
1980	82	126,463	1,830	13,290,035	407,891	13,826,301
1981	251	145,613	3,375	19,180,835	1,704,841	21,034,915
1982	104	58,719	24,116	17,762,931	946,623	18,792,493
1983	439	38,542	9,706	12,711,549	789,808	13,550,044
1984	80	151,740	11,477	20,222,330	905,376	21,291,003
1985	694	125,041	16,441	23,343,341	1,025,555	24,511,072
1986	513	61,905	11,320	10,233,707	1,403,350	11,710,795
10 Year						
Average (1977-86)	372 •	88,405	8,529	13,837,301	819,711	14,754,318
1987	429	111,675	25,044	24,351,353	1,463,787	25,952,288

⁽¹⁾ Includes purse seine catches from the Eastern, Northern, Northwestern, Southwestern, Montague, and Southeastern districts. Does not include hatchery sales harvests.

⁽²⁾ Purse seine season closed. Catches were made by troll gear.

Table 32. Commercial salmon catch by all gear types, by species, in Prince William Sound, 1971 - 1987. (1)

Year	King	Sockeye	Coho	Pink	Chum	Total
1971	3,551	88,368	30,551	7,310,964	574,265	8,007,699
1972(2)	547	197,526	1,634	54,783	45,370	299,860
1973	2,405	124,802	1,399	2,056,878	729,839	2,915,323
1974(2)	1,590	129,366	801	448,773	88,544	669,074
1975	2,519	189,613	6,142	4,452,805	100,479	4,751,558
1976	1,044	112,809	6,171	3,018,991	370,478	3,509,493
1977	648	310,358	843	4,513,082	572,610	5,397,541
1978	1,042	222,083	1,495	2,913,721	485,147	3,623,488
1979	2,015	150,040	6,843	15,607,620	326,414	16,092,932
1980	189	189,816	2,952	14,157,057	482,016	14,832,030
1981	404	251,222	4,383	20,524,470	1,878,716	22,659,195
1982	255	1,055,099	24,362	20,396,222	1,335,368	22,811,306
1983	1,048	92,111	10,496	14,038,796	1,041,309	15,183,760
1984	489	311,955	12,420	22,086,806	1,201,842	23,613,512
1985	1,104	493,278	19,753	25,056,663	1,280,093	26,850,891
1986	1,330	488,715	12,277	11,407,271	1,683,049	13,592,642
10 Year						
Average (1977-86	852 5)	356,468	9,582	15,070,171	1,028,656	16,465,730
1987	874	540,109	47,751	29,198,507	1,904,494	31,691,735

⁽¹⁾ Includes purse seine, drift gill net and set gill net catches from all Prince William Sound fishing districts; Eastern, Northern, Unakwik, Coghill, Northwestern, Eshamy, Southwestern, Montague and Southeastern. Also includes salmon harvested to offset operational costs for the Solomon Gulch and Armin F. Koernig hatcheries.

⁽²⁾ General purse seine season closed.

Table 33. Pink salmon commercial catch for all gear types, by district, for the years 1969-1987, Prince William Sound, 1987. (1)

	rn Total	82 4,799,279	38 2,748,127	7,306,699	64,189	1,945,505	448,769	56 4,276,283	56 2,861,920	74 4,091,897	36 2,678,844	25 15,333,312	13,632,411	19,944,600	18,372,328	13,036,383	12 21,127,298	52 23,853,226	58 10,498,052	38 26,212,446	39 10,117,451
	Southeastern	696,182	90,438	276,605		657,429		875,456	82,366	824,374	216,696	4,160,925	1,271,389	3,221,268	747,116	1,482,013	1,245,042	2,733,562	147,268	955,988	1,157,889
	Montague					146,778		118,467		77,104		1,347,413	950	278,879	777	158,241	11,587	1,448,809		111,011	336,880
	Southwestern	2,565,737	1,518,700	3,901,939		407,388		1,673,887	589,458	930,469		5,111,073	7,507,776	10,371,220	10,801,771	5,957,068	10,197,349	10,843,752	6,374,535	13,341,940	5,755,879
DISTRICT	Eshany	0	0	•	54,781	0	285,441			0			0		3,997		544,082	58,183	43,061	89,902	89,954
	Northwestern	268,240	371,528	163,401		127,197		420,891	207,190	208,727		59,423	306,109	46,874	520,972	714,522	1,412,822	527,132	285,184	750,877	399,443
	Coghill	43,134	100,338	323,841	807'6	95,793	163,328	303,597	217,696	230,215	13,059	38,560	134,876	34,155	1,000,524	273,131	696,483	523,773	214,593	1,578,568	331,320
	Northern	262,403	308,797	666,308		183,467		171,657	384,267	147,964	933,013	115,886	1,271,177	1,194,621	2,331,903	1,021,345	2,194,904	1,002,872	944,871	2,419,611	915,004
	Eastern	963,583	358,326	1,974,605		327,453	,	712,328	1,380,943	1,673,044	1,516,076	4,500,032	3,140,134	4,797,583	2,959,601	2,430,063	4,525,029	6,715,143	2,488,540	6,964,549	2,789,825
YEAR		1969	1970	1972 (2)	1972 (3)	. 1973	1974 (3)	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	AVERAGE

included in the Northern District. Does not include salmon harvested to offset operational costs for Solomon Gulch, Armin F. Koernig, (1) Includes purse seine, drift gill net and set gill net catches from all Prince William Sound fishing districts; Unakwik catches are Cannery Creek and Main Bay hatcheries.

⁽²⁾ Eshamy District closed to fishing.

⁽³⁾ The general purse seine district closed to fishing.

Table 34. Sales harvests of salmon by species from private nonprofit hatcheries, Prince William Sound, 1978 - 1987.(1)

				_				
Year		Hate	cher	Ту	Coho	Pink	Chum	Total
1978 A	FK		:			133,648		133,648
1979 A	FK					223,761		223,761
1980 A	FK,	N				346,928	6	346,934
1981 A	FK					707,037	118	707,155
1982 A	FK					1,355,315		1,355,315
1983 A	FK					765,924		765,924
1984 A	FK,	SG			•	402,825	4,886	407,711
1985 A	FK,	SG				1,273,951	3,840	1,277,791
1986 A	YFK,	SG			2,156	909,219	20,683	932,058
1987(3)A	YFK,	SG,	E,	CC	7,015	2,986,061	2,549	2,995,625
TOTAL					9,171	9,104,669	32,082	9,145,922

- (1) Includes salmon harvested by private nonprofit hatcheries in Prince Willaim Sound to generate revenues to offset operational costs.
- (2) Hatchery codes: AFK = Armin F. Koernig Hatchery (PWSAC)

E = Esther Hatchery (PWSAC)

SG = Solomon Gulch Hatchery (VFDA)

N = NERKA Inc.

CC = Cannery Creek

(3) PWSAC administered a sales harvest at the state owned Cannery Creek hatchery. A majority of the coho salmon sold were carcasses and surplus brood fish from the Solomon Gulch hatchery.

Table 35. Estimated total pink salmon hatchery and wild stock production in Prince William Sound, 1978 to 1987.(1)

Total	Return	Ъy	Hatchery	(2)

Year 	Solomon Gulch (VFDA)	Armin F. Koernig (PWSAC)	Esther (PWSAC)	Main Bay (ADF&G)	Cannery Cr. (ADF&G - PWSAC)	Total Hatchery	Total Wild Stock Component(3)
1978		154,620				154,620	3,835,953
1979		552,955				552,955	18,125,908
1980		1,493,489			90,348	1,583,837	13,801,072
1981	•	2,264,854			141,328	2,406,182	18,147,878
1982		5,134,363		35,000	760,389	5,929,752	16,605,877
1983	92,000	3,722,502		496,850	469,436	4,780,788	11,876,652
1984	200,000	2,900,000		1,200,000	1,139,000	5,439,000	20,497,336
1985	421,000	5,030,000		383,000	2,686,000	8,520,000	19,947,862
1986	1,240,000	4,964,000		232,000	853,000	7,289,000	5,847,146
1987	5,156,000	7,659,000	3,035,000	328,000	2,123,000	18,301,000	13,653,014

⁽¹⁾ Prior to 1987, there was no definitive or statistically valid method of separating hatchery and wild stock composition in the commercial catch. The above estimates are based on presumed wildstock exploitation rates which in turn are determined by the wild stock escapement estimate. The wild stock escapement index is only a minimum estimate. The true wild stock escapement is not known. Consequently estimates prior to 1987 may exaggerate hatchery contributions some what. In 1987 returning adults from the Cannery Creek, Armin F. Koernig and and Esther hatcheries were marked with half length coded wire tags. In a jointly funded program conducted by ADF&G and PWSAC, these marked fish were recovered and analysed to estimate hatchery contributions to the fishery (Peltz, 1988).

⁽²⁾ Hatchery totals include terminal harvests, brood stock collection, escapement and estimated common property fishery interception.

⁽³⁾ Total wild stock return represents the estimated wild stock catch plus the aerial escapement index.

Table 36. Summary of pink and chum salmon returns to Prince William Sound hatcheries, 1987.

Pink salmon returns to P.W.S. hatcheries. (1)

Hatchery	Rel	Fry .ease .ions)	1987 Forecast Return	Estimated Total Retu rn	Marine	C.P.F. Comm Catch	Sales Harvest	Esemt. and Brood	Eggs Taken (millions)
Solomon Gulch		54.7	2,735,000	5,156,000	9.4%	3,500,000	1,356,473	300,000	163.0
A. F. Koernig		113.0	5,650,000	7,659,000	6.8%	5,986,000	1,282,640	390,000	126.0
Esther		34.7	1,735,000	3,035,000	8.7%	2,429,000	305,946	300,000	228.0
Cannery Creek		52.9	2,645,000	2,123,000	4.0%	1,782,000	41,002	300,000	108.0
Main Bay		32.7	700,000	328,000	1.0%	328,000	~	-	-
Total Pink		288.0	13,465,000	18,301,000		14,025,000	2,986,061	1,290,000	625.0

Chum salmon returns to P.W.S. hatcheries. (2)

Hatcher y	1987 Forecast Return	Estimated Total Return	C.P.F. Comm Catch	Sales Harvest	Esemt. and Brood	Eggs Taken (millions)
				DOXIONSCON	2555-65-65-6	
Solomon Gulch		unknown	unknown			1.6
A. F. Koernig		unknown	unknown			
Main Bay	160,000	128,000	68,000		60,000	69.5 (3)
Esther	148,000	unknown	unknown			13.2
Total Chum	308,000	128,000	68,000	0	60,000	84.3

- (1) Estimates of the common property catch of pink salmon from the Solomon Gulch hatchery are based on commercial catch as reported on fish tickets from special openers in the SHA and regular openings in Valdez Arm and Port prior to July 17. C.P.F. catches from the Cannery Creek, Armin F. Koernig and Esther hatcheries are based on CWT recoveries (Peltz, 1988).
- (2) Total return estimates of chum salmon are not attempted due to limited baseline data.
- (3) The 69.5 million chum salmon eggs taken at Main Bay in 1987 were transferred to the Esther hatchery for incubation. The Main Bay facility was converted to a sockeye hatchery and is currently incubating approximately 10 million sockeye eggs from Coghill Lake.

rable 37. Commercial catch and aerial escapement indices for pink and chum salmon by district, Prince William Sound, 1987.

PINK SALMON

Distric t	Commercial Catch (1)	Desired Escapement Range	Escapement Index(2)	Min. Est. Total Run
Eastern	6,964,549	400,000 - 480,000	514,570	7,479,119
Northern/Unakwik	2,414,740	140,000 - 170,000	132,960	2,547,700
Coghill	865,671	- 125,000 - 175,000	147,060-	1,012,731
Northwestern	750,877	104,000 - 172,000	75,390	826,267
Eshamy	86,677	9,000 - 12,000	3,450	90,127
Southwestern	13,341,940	69,000 - 115,000	112,920	13,454,860
Montague	111,011	106,000 - 128,000	149,260	260,271
Southeastern	955,988	225,000 - 270,000	326,730	1,282,718
Total	25,491,453	1,178,000 - 1,522,000	1,462,340	26,953,793

CHUM SALMON

District	Commercial Catch (1)	Desired Escapement Range	Escapement Index(2)	Min. Est. Total Run
Eastern	843;084	87,000 - 110,000	183,620	1,026,704
Northern/Unakwik	371,274	29,000 - 37,000	38,700	409,974
Coghill	59,252	49,000 - 61,000	24,510	83,762
Northwestern	71,116	3,000 - 4,000	26,460	97,576
Eshamy	45,099		0	45,099
Southwestern	150,227	3,000 - 4,000	1,690	151,917
Montague	1,754	11,000 - 14,000	0	1,754
Southeastern	32,881	20,000 - 25,000	44,020	76,901
Total	1,574,687	202,000 - 255,000	319,000	1,893,687

⁽¹⁾ Commercial catch does not include hatchery sales harvests.

⁽²⁾ Based on weekly aerial survey counts of 209 index spawning streams in Prince William Sound. This does not represent the total spawning escapement but rather a comparable annual index.

Table 38. Pink Salmon escapement index and commercial catch, Prince William Sound, 1960-1987.

PINK SALMON ESCAPEMENTS

Year	Eastern	Northern	Northwest Coghill	Southwest Eshamy		Southeastern	Total	Commercial · Catch(1)	Total Run
					·				
1960	. 475,073	133,653	203,575	155,788	214,987	167,646	1,350,722	1,841,896	3,192,618
61	706,790	123,900	448,180	133,990	289,290	496,830	2,198,980	2,298,218	4,497,198
62	650,300	253,490	417,190	107,950	317,360	271,720	2,018,010	6,742,316	8,760,326
62	378,050	77,760	354,230	49,760	78,750	417,190	1,355,740	5,295,378	6,651,118
64	485,470	349,010	353,030	172,800	121,220	360,150	1,841,680	4,206,896	6,048,576
1965	258,680	54,970	187,760	62,720	77,000	255,930	897,060	2,460,471	3,357,531
66	489,800	255,710	200,940	110,980	42,050	201,150	1,300,630	2,699,418	4,000,048
67	321,520	167,300	544,080	109,750	23,800	.300,270	1,466,720	2,626,340	4,093,060
68	360,300	136,630	201,790	165,510	44,100	183,440	1,091,770	2,452,168	3,543,938
69	328,960	147,880	264,750	132,510	63,470	218,060	1,155,630	4,828,579	5,984,209
1970	328,730	109,240	170,130	69,260	73,190	139,640	890,190	2,809,996	3,700,186
71	529,820		614,530	104,080	337,540	373,900	2,121,410	7,310,964	9,432,374
72	317,450	-	66,270	27,680	28,860	75,550	607,420	54,783	662,203
73	264,850	•	563,510	66,030	106,340	184,340	1,229,910	2,056,878	3,286,788
74	229,370		200,520	141,750	11,800	89,170	858,740	448,773	1,307,513
1975	570,830	44,270	580,170	77,860	110,950	234,210	1,618,290	4,452,805	6,071,095
	•	•		=					3,884,595
76	446,470		116,730 426,670	51,200 226,060	12,260	115,560 315,510	865,600 1,693,330		6,207,761
77	465,970			220,610	196,970				3,835,953
78	268,940	•	200,950		48,680	156,830	1,055,880		
. 79	782,420	223,580	241,120	264,710	323,490	1,091,970	2',927,290	15,393,223	18,320,513
1980	515,380	171,410	338,100	134,860	114,170	302,190	1,576,110	13,434,024	15,010,134
81	768,000	259,850	588,880	193,750	506,140	594,890	2,911,510	19,286,542	22,198,052
82	566,530	325,890	429,750	189,190	125,870	470,000	2,107,230	18,858,647	20,965,877
83	504,480	180,040	521,010	182,520	247,260	634,890	2,270,200	13,309,461	15,579,661
84	1,209,050	591,700	959,160	397,790	193,020	801,540	4,152,260	21,683,076	25,835,336
1985	809,010	228,140	499,260	199,260	337,450	641,410	2,714,510	23,959,698	26,674,208
86	469,080		198,710	78,240	54,390		1,127,670		11,625,722
87	514,570	-	222,450	116,370	149,260	-	1,462,340		26,953,793

⁽¹⁾ Includes the common property harvest of both wild and hatchery stocks. Does not include hatchery sales harvests.

Table 39. Weekly Aerial Estimates of Pink Salmon Escapement by Statistical Area, Prince William Sound, 1987.

Stat	t Area	6/20	6/27	7/04	7/11	7/18	7/25	8/01	8/108	8/15	8/22	8/29	9/05	9/12 9	9/19 9/	9/26	Total	Adjusted
11	Orca Inlet	0	0	250	1,430	3,500	6,100	7,610	10,600	17,200	12,520	6,000	1,200	0	0	0	66,410	27,700
12	Simpson/Sheep	100	10	0	1,550	4,150	10,500	17,265	20,600	33,100	72,100	52,700	15,640	0	0	0	227,715	91,840
	or in the second	_	150	1 470	4 600	000	15,400	13 420	36 250	50 500	80,300	67,200	21.130	0	0	0	299,420	120,530
1	OLS VILIA	0 () (1	,	, ,	000	911	000	1000		1					087 666	115 260
14	Fidalgo	n i	001	2,900	α, 95U	17,400	34,400	000,22	25,300	4/, TOU	45,500	07,100	10,200		۰ د	•	210,100	100
15	Valdez Arm	1.50	300	200	6,050	0/0'6	12,950	10,370	23,500	36,200	104,550	83,350	23,230	>	-	-	310,220	121,400
16	Port Valdez	100	450	700	1,829	1,600	10,000	12,760	15,100	12,700	4,900	2,400	2,440	a	0	o	64,979	31,660
1			1	1	1					1	1				1 1 1 1 1		!	
Eas	Eastern Dist. Total	400	1,010	5,820	24,409	44,720	89,350	83,975	131,350	196,800	317,670	268,750	81,920	0	0	0 1,	246,174	514,570
1				1			 (1 (1 1		1				2021	063.3
21	Columbia/Long	9	5	9	300	000	450	1,600	1,190	2,020	4,650	2,300	0 ::	، د	- (.	12,300	0,000
22	Wells/Unakwik	0	0	20	700	9,400	21,200	32,350	29,230	57,730	67,910	24,650	11,530	_	>	>	77, 457	0/5'077
23	Eaglek	0	0	0	0	350	1,200	4,200	800	1,310	5,500	6,110	2,000	0	0	0	24,470	10,920
1											1	1 1 1 1 1 1 1		 	1		1 1 1 1 1 1	
Nor	Northern Dist. Total	0	0	20	1,000	9,800	22,850	38,150	31,220	61,060	78,060	33,060	16,530	0	0	0	291,750	132,960
-								1	: : : : : : : : : : : : : : : : : : : :		1 1 1 1 1 1 1	1		1]	111111111111111111111111111111111111111	
31	W. Port Wells	0	0	0	0	220	3,660	14,700	11,920	13,430	13,410	14,050	12,630	0	0	0	84,020	34,090
30	Esther Passage	0	0	0	0	a	50	0	200		1.280	2,000	700	0	0	0	4,780	2,020
1 6	S Port Della	· c				550	; 0	C			102.000		0	0	0	0	102,550	110,950
i i i			,	,)) 	; i			1 1 1		1	1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Cog	Coghill Dist. Total	0	0	0	0	770	3,710	14,700	12,120	13,980	116,690	16,050	13,330.	0	0	0	191,350	147,060
1		1	1	1 1 1 1 1 1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 1 1 1 1 1 1	1		1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1		1		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
1.4	Passage/Gochtane	О	0	C	1.000	950	4.260	5.600	3.000	4.680	3.850	2,150	1,700	0	0	0	27,190	13,730
: : 6:5	Culting Doce	· c	· c		· ·	250	620	13 700	13,650	16.300	25,570	15,250	8,250	0	0	0	93,390	37,590
	WITTE TOO		•	•	2	007	3	2000	0070	000,04	יין מ היים	070 4	050 7			· c	48.600	24.070
7	Neille Juan	>	>	>	001	T, 600	כ	12,300	0,400	000,0	0,50	0 1 1 1 1	0)	,	, i	,	10,000	
Nor	Northwestern Dist Total	0	0	0	1,100	2,800	088,4	32,600	24,850	26,340	38,370	23,340	14,900	0	0	0	169,180	75,390
1 1	- 1	1							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	; ; ; ; ;		•		1 4 4 1	1 1 1 1	1		[]]
53	Eshamy	0	0	0	0	50	0	0	0	0	3,400	0	0	0	o	0	3,450	3,450
												111111111111111111111111111111111111111	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	! ! ! !	 		
Esh	Eshamy Dist. Total	0	0	0	0	50	0	0	0	o	3,400	٥	0	0	0	0	3,450	3,450
69	Chenesa	c	o	09	1.200	3.630	12.400	11.200	22.960	0	70.000	31,700	8,140	0	0	0	161,290	067,06
1 7	Dointrideo-Totombe	, ,) 		1 625	4 250	3 600		12,000	3,910	6.650	0	0	0	32,135	17,510
5 5	Walletage harone.			•			1	r r	0 0		200,21	005 1	800	· c	· c	· c	5.450	3,120
20	Knight island,	.	o 0	,	.	9 (9 5	0 0	000	5 6	2007	2001	2 6) C	, (00110	1 800
Ç	Fort Balmbridge	5	>	>	>		0.4	700	300		Τ,, υυ	0	7 40		; ; ;		1,100	3 3 4 4 4 4
1 0		- C	٥		1 200	3 630	14 065	15 750	97.910	C	86.500	37.110	15.830	0	٥	0	201,355	112,920
1 1													1	1		-		
71	S. Montague	0	0	0	0	10	700	1,860	37,050	43,250	18,530		6,920	0	0	0	108,320	53,480
72	N. Montague	0	0	0	0	70	1,320	5,360	71,500	73,500	28,010	0	16,540	0	o	0	196,300	95,780
;		1						1			1	1 1 1 1 1					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1
Mon	Montague Dist. Total	0	0	0	0	80	2,020	7,220	108,550	116,750	46,540	0	23,460	0	. 0,	0	304,620	149,260
1			1				1111111											1 0 0
81	S. Hawkins	0	0	0	0	0	09	30	1,100	1,400	1,700	5	200	3 (5 (5 (4,490	027,20
82	Cutoff	0	0	9	220	1,190	6,540	11,400	48,500	88,700	35,200	0	9,100	.	.	5 1	COU, STO	90,420
83	N. Hawkins	0	0	0	0	530	4,410	4,200	41,800	41,900	25,700	0	12,750	9	o	5	131,290	07,080
84	Double Bay	0	0	0	760	950	4,350	4,750	23,000	28,300	16,000	o	11,060	-	5	5	89,170	41,300
85	Johnstone	0	٥	9	100	400	1,900	1,950	11,400	16,500	9,330	٥	5,000	0	0	0	46,640	21,610
86	Erches	0	0	70	400	4,200	7,800	15,500	52,800	98,700	38,730	0	21,490	0	0	0	239,690	109,250
-		1								1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Sou	Southeastern total	0	0	190	1,480	7,270	25,060	37,830	178,600	275,500	126,660	0	59,600	0	0	٥	712,190	326,730
											II		023 300			,	2 120 060 1 462 340	078.697
Arca	a Totals	400	1,010	6,090	29,189	69,120	161,935	230,225	513,900	690,430	813,890	3/8,310	225,570)	ɔ		T > 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	250,404,

Table 40. Chum salmon escapement index and commercial catch, Prince William Sound, 1960-1987.

CHUM SALMON ESCAPEMENTS

			Northwestern	Southwester	 n			Commercial	
Year	Eastern	Northern	Coghill	Eshamy		Southeastern	Total		Total Run
1960	92,100	24,729	40,458	4,800	16,782	23,008	201,877	381,858	583,735
61	117,950	50,420	70,940	4,750	34,380	59,910	338,350	224,401	562,751
62	238,660	67,670	96,020	10,610	34,190	39,690	486,840	891,880	1,378,720
62	148,090	68,390	114,250	5,330	15,070	20,030	371,160	942,900	. 1,314,060
64	176,840	64,750	136,590	3,560	31,650	29,160	442,550	539,047	981,597
1965	69,180	20,980	39,690	1,840	17,500	46,480	195,670	201,043	396,713
66	85,480	39,440	42,150	3,420	32,720	20,160	223,370	426,628	649,998
67	97,420	50,930	15,290	2,360	11,060	10,700	187,760	274,234	461,994
68	99,350	31,530	37,310	5,100	1,590	21,400	196,280	342,939	539,219
69	81,140	9,770	43,390	2,170	1,710	26,310	164,490	320,977	485,467
1970	58,180	6,100	22,000	770	3,370	11,910	114,900	230,661	345,561
71	79,930	16,190	34,570	1,210	25,620	9,260	182,730	574,265	756,995
72	134,780	79,030	50,520	2,850	5,190	29,310	340,950	45,370	386,320
73	267,210	143,420	89,790	1,130	2,930	42,110	501,810	729,839	1,231,649
74	92,840	53,830	45,010	200	90	2,910	190,328	88,544	278,872
1975	28,220	7,820	7,410	580	o	2,760	46,790	100,479	147,269
76	17,870	26,520	38,460	90	0	950	83,890	370,478	454,368
77	53,200	36,360	41,640	4,480	560	8,370	144,610	575,839	720,449
78	102,290	25,410	27,650	500	0	6,030	161,880	485,147	647,027
79	57,450	17,040	18,660	80	0	4,450	97,680	324,040	421,720
1980	32,160	34,250	14,460	40	280	6,230	87,420	412,948	500,368
81	92,240	39,740	47,590	770	0	21,890	202,230	1,745,869	1,948,099
82	175,950	80,200	42,750	1,670	0	26,090	326,660	1,335,368	1,662,028
83	145,670	91,770	95,850	3,700	0	22,900	359,890	1,030,546	1,390,436
84	131,130	60,400	24,460	10	0	9,160	225,160	1,196,785	1,421,945
1985	98,170	35,080	37,330	640	0	4,610	175,830	1,302,090	1,477,920
86	148,990	60,570	39,400	2,950	0	14,180	266,090	1,662,366	1,928,456
87	183,620	38,700	50,970	1,690	0	44,020	319,000	1,574,687	1,893,687

⁽¹⁾ Includes the common property harvest of both wild and hatchery stocks. Does not include hatchery sales harvests.

Table 41. Weekly Aerial Estimates of Chum Salmon Escapement by Statistical Area, Prince William Sound, 1987.

Stat Area	6/20	6/27	1/04	7/11	7/18	7/25	8/01	8/08	8/15	8/22	8/29	9/05	9/12	9/19 9	9/26 T	Total A	Adjusted
11 Orca Inlet	a	0	0	0	٥.	200	200	400	2,500	1,680	0	0	0	0			2,230
12 Simpson/Sheen	C	10	700	1.60	3.300	9.500	10.700	14.400	. 10,500	13,000	24.050	4.860	0	0	0	92.620	38,100
	007	,	٧	10.00	15,800	15,000	18 100	16 200	11 000	10,000	12,000	7,520	c	c	-		50,440
		1	5	2 4 4	1 800	2007 5	5 900	201/21	000,00	12 000	21 500	ממט צ		, =	•		20,580
	9				11,000	200	, ,		0000			000,0					000
	0	2	T, 40	Ŧ	TT' DOO	10,200	11,500	10,200	77,000	7, Zuu	7	070'/			. מ		010,04
16 Port Valdez	0	0	0	400	1,100	2,900	4,500	5,600	8,300	8,500	009'6	5,100	0	0		46,000	20,160
	0 0 0	7,10	27. 0	16 050	33 600	, o 500	200	1 0 0 2 7 X	4 500	000 44	70 550	20 180			67	35 745 1	183 620
	9 1	1 1	1 1	1		2006		2004	10 11 0 1		0 10 10 10 10 10 10 10 10 10 10 10 10 10	1 0 1	,	,	1	1	21 10 11
21 Caleman to 1	_	C		2.5	002 6	3 150	1 800	2 250	0 200	005	1111	150	_	-	-	1.860	030
			ř		2 0	9 4	000	1,10	2,200	0 0	011	1		•			
	>	G.		4,30	000,0	0,000	0,200	UTC',	0,700	0,200		1,830	-		7		0/5/07
23 Faglek		0	0		0	1,300	400	2,000	2,100	2,050	1,040	1,300	0	0		10,190	5,400
	1			! ! ! ! ! !					 	1 1 1 1 1 1 1 1	:				1	1	
Northern Dist. Total	0	250	700	2,800	8,500	9,950	10,400	12,060	10,050	7,800	7,050	3,300	•	0	0	72,860	38,700
1	1 (! ! !		1					1 6						ŀ	!	
	5	3	⊣	9	20	2, /50	3,450	008,c	8,750	12,000	6,200	4,000	.	-	3		0TC'6T
32 Esther Passage	0			0	0	0	0	0	0	0	0	0	0	0		-	0
33 E. Port Wells	0		0	Đ	0	0	0	0	0	5,000	0	0	0	0		2,000	2,000
	1 (1		
Coghill Dist. Total	0		10	0	50	2,750	3,450	2,800	8, 750	17,000	6,200	4,000	0	0	4 0	47,980	24,510
// Dancard Li				2 510	2.250	9 950	006.8	9 300	5 050	5 350	3 000	1.600	_	c		47.910	21.270
1 0									200	•	150	100	· c				300
	•	0 0		0			950	1.650	3.000	1.210	1.050	700		0	0	8.260	4.890
- !) 	1	1) 	i i i i) 		25217	2006	2111111111	2 1) 	;	1 1	-		
Northwestern Dist Total	al 0	0	0	2,510	2,250	9,950	9,850	10,950	8,250	6,560	4,200	2,100	0	0	0 5	56,620	26,460
As Cheneses								1.000		100	06			c	l I	1.190	1.640
					o c			•		9 6	? =	•	- د	· c		205	5.0
								· -							· c		, -
os vurgur istand	3 ! !	1		1 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	>)) 	• i)) 	 	,	,	 	,	
Southwestern Dist Total	al 0	0	0	0	0	0	0	1,000	0	150	90	0	0	0	0	1,240	1,690
71 S Montague		 			0	0	0	0	0	0	0	0	0	0	0	0	0
ż	0	0			0	0	٥	0	0	0	0	0	o	0	0	0	0
Montague Dist, Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1			1 1 1 1 1 1				1		1	1 1 1				1 (
81 S. Hawkins	0				0	0	0	0	0	0	0	0	0	0	0	0	0
82 Cutoff	0	0		0	o	0	850	550	0	0	0	0	0	0		1,400	1,160
83 N. Hawkins	0				0	700	700	300	0	1,400	0	1,500	0	0		4,300	3,300
84 Double Bay	0	0	0		200	1,400	0	800	3,400	6,600	0	3,640	0	0		16,040	8,620
. 85 Johnstone	0			10	500	1,560	2,000	1,500	0	2,270	0	2,500	0	0	0 1	10,430	5,750
	0	0	0	9	700	5,530	5,500	11,450	9,300	7,780	0	11,310	0	0		51,630	25,190
		1	1				1 1 1 1 1 1 1	1 1 1 1 1 1 1 1					1			1 1 1 1 1	1
Southeastern total	0	0	0	160	1,400	8,890	9,050	14,600	12,700	18,050	0	18,950	0	0	8 0	83,800	44,020
A*************************************	7.00	099 6	288 8	067 66	022 57	81 040	057 68	98 910	056 76	104 840 97 090	050 76	58 530	_	c	0 69	698.245.3	319.000
Alea locats) ? r	7,000	2	24,22	,	,	3	1	r	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,)			

Table 42. Sockeye salmon escapement counts from selected systems in Prince William Sound, 1987.(1)

Weekly	Court	(reach	anding	dotes	
Meekta	COUNT	(Week	enaine	qares,	

Stream	Stream										
Name	Number	11-Jul	18-Jul	25-Jul	01-Aug	08-Aug	15-Aug	22-Aug	29-Aug	05-Sęp	12~Sep
Robe River	137										
Billy's Hole	218					10					ŧ
Red Lake	300			250							
Halferty Creek	k 454						100	100	100		
Cochrane Creek	k 461										
Shrode Lake	476		•		400	5,200	1,060	.60	10		
Jackpot Lakes	608		300	1,250		900		220	200	100	
Bainbridge	630		40	150		80		300			
Point Creek	702						•				

⁽¹⁾ Counts contained in this table are obtained in conjunction with the regular pink and chum aerial survey program. Many of these sockeys systems are difficult to survey by air and thus the counts do not necessarily represent total live abundance at a particular time.

Table 43. Estimated age and sex composition of the sockeye salmon in the commercial purse seine catches Southwest District, Prince William Sound, 1987.

						 Brood	 Year and	Age Grou	 D			
		1	L984		1983			1982	-	1981	1980	
		0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	`2.4	Total
Catch Da	ates: 8/19-9/12											
Sample 1	Dates: 7/23-8/19											
Sample	Size: 2,337											
Female	Pct. of Sample	0.0	0.0	0.1	18.7	0.0	18.2	8.0	0.0	2.5	0.1	47.7
	No. in Catch	19	20	38	7,975	0	7,760	3,396	20	1,071	24	20,323
Male	Pct. of Sample	0.0	1.1	0.1	13.8	0.4	28.8	5.1	0.0	2.9	0.0	52.3
	No. of Catch	0	490	39	5,891	157	12,281	2,191	0	1,229	20	22,298
Total	Pct. of Sample	0.0	1.2	0.2	32.5	0.4	47.0	13.1	0.0	5.4	0.1	100.0
	No. in Catch	19	510	77	13,866	157	20,041	5,587	20	2,300	44	42,621
	Std. Error	18	93	36	357	52	356	278	18	208	30	

Table 44. Estimated age and sex composition of chum salmon in commercial catches from seine and gillnet gear types, Frince William Sound, 1987.

		1985	Brood 1984	Year and 1983	Age Group 1	982	1981	
		0.1	0.2	0.3	0.4	1.3	0.5	Total
URSE SEINE (1	 \							
atch Dates:	6/21 - 9/12		•					
Sample Dates:								
ample Size:	5,342		•					
emale	Percent of Sample	0.0	1.3	32.8	19.2	0.0	0.1	53.4
	Number in Catch	223	19,158	478,706	280,505	0	1,197	779,789
fale	Percent of Sample	0.0	1.4	25.2	19.7	0,0	0.3	46.6
	Number in Catch	0	21,140	368,966	288,342	0	3,796	682,244
Cotal	Percent of Sample	0.0	2.7	58.0	38.9	0.0	0.4	100.0
	Number in Catch	223	40,298	847,673	568,846	0	4,993	1,462,033
	Standard Error	207	4,042	11,777	11,519	. 0	1,464	
Catch Dates:	SEINE AND GILLNET(2) 6/14 - 8/08							,
Sample Dates: Sample Size:	6/ 25 - 7/15 958							
Female	Percent of Sample	0.0	0.6	39.3	11.9	0.0	0.0	51.8
	Number in Catch	0	2,361	148,545	44,887	0	0	195,793
Male	Percent of Sample	0,0	0.6	32.3	14.9	0.1	0.3	48.2
	Number in Catch	0	2,361	122,051	56,329	426	1,134	182,301
Fotal	Percent of Sample	0.0	1.2	71.6	26.8	0.1	0.3	100.0
	Number in Catch	0	4,722	270,596	101,216	426	1,134	378,094
	Standard Error		1,366	5,469	5,380	404	669	
ESHAMY DISTRIC	T DRIFT AND SET GILI	NET						
Catch Dates:	6/14 - 8/29							
Sample Dates:						•		
Sample Size:	2,607			•				
Female	Percent of Sample	NA	N.A	NA	. NA	NA	NA	NA
	Number in Catch	NA	NA	NA	NA	NA	NA	NA
Male	Percent of Sample	NA	ŊA	NA	. NA	NA	NA	NA
	Number in Catch	NA	NA.	NA	NA	, NA	NA	NA
Sexes Combined	Percent of Sample	0.0	0.4	50.5	48.2	0.0	0.9	100.0
	Number in Catch	0	225	26,312	25,154	0	468	52,159
	Standard Error	0	67	522	519	0	95	

⁽¹⁾ This is a weighted pool of temporally stratified catch at sex and age estimates for the purse seine fisheries in the Eastern, Northern, Northwestern, Southwestern and Southeastern districts.

⁽³⁾ The sample for the first of three strata in this district was a pool of samples from the district catch as a whole and from Main Bay exclusively. The samples for the remaining two strata were from Main Bay where the majority of the district catch occurred.

STRATA Combined				0 <u>.4</u> 695,216		offi	Torne 1,892,286
To SAMPLE	გ.	2.391	(n. 487	36.739	0.349		

⁽²⁾ Because it was not possible to say with certainty that the samples for this district were caught exclusively by the gillnet fleet the relatively small purse seine catches (59,252 fish) were included in this catch stratum.

Table 45. Prince William Sound area subsistence fisheries catch by gear type, 1987.

Area	Permits Issued	Permits Fished	Gear(1 Type) KING	SOCKEYE	соно	OTHER(2)	TOTALS
PRINCE WILLIAM SOUND	17 0 1	3 Q 1	D.G.N. P.S. S.N.	0 0 5	15 0 16	0 0 6	16 0 0	31. 0 27
P.W.S. TOTAL	18	4		5	31	6	16	58
COPPER RIVER FLATS	95	39	D.G.N.	49	359	. 14	88	510
AREA TOTAL	113	43		54	390	20	104	568

⁽¹⁾ D.G.N. = Drift gill net; P.S. = Purse seine; S.N. = Set net.

⁽²⁾ Includes cutthroat and Dolly Varden as well as misc. salmon species.

Table 46. Salmon catch and effort in the Copper River District subsistence gillnet fishery, 1960 - 1987.

			Permits Retur	ned			С	atch	
Year	Total Issued	Unused	Unsuccessful	Successful	Total	Chinook	Sockeye	Coho	Total
1960	13	No Record	No Record	Unknown	No Record			158	158
1961	14	11	II .	19	14	, 60	137	99	296
1962	14	19	ø	11	No Record	44	135	3	182
1963	8	٥	2	6	8	3	13	157	173
1964	5	2			3	14			14
1965	31	5	2	13	20	12	459	85	556
1966	45	10	2	19	31	47	175		222
1967	61	19	9	28	56	83	153		236
1968	17	, 8	1	6	15	11	36		47
1969	4 9	13	7	13	33	16	63	85	164
1970	32	3	1	23	27	66	179		245
1971	29	9	12	5	26	10	32	4	46
1972	104	5		75	80	149	569	53	771
1973	94			89	89	153	326	, 180	659
1974	. 9	2	2	1	5	. 5	4	2	11
1975	2			2	2	0	5	0	5
1976	27			14	14	1	10	0	11
1977	23			22	22	10	71	0	81
1978	34	19		9	28	37	18	12	67
1979	49	20	4	17	41	45	26	17	88
1980	39	17	6	12	35	19	27	17	63
1981	72	21	4	26	51	48	145	104	297
1982	108	42	3	45	90	60	634	106	802 (
1983	87	42	4	27	73	79	107	57	254 (
1984	118	47	14	43	104	68	324	135	549 (
1985	94	27	9	58	76	88	261	83	433 (
1986	88	28	9	48	85	86	348	47	481 (
1987	95	50	5	34	89	49	359	14	510 (

⁽¹⁾ Includes 1 pink and 1 chum.

⁽²⁾ Includes 11 pinks.

⁽³⁾ Includes 22 pinks.

⁽⁴⁾ Includes 1 chum.

⁽⁵⁾ Includes 23 Dolly Varden.

⁽⁶⁾ Includes 73 Dolly Varden, 6 Whitefish and 9 Cutthroat.

Table 47. Salmon catch and effort in the Prince William Sound subsistence fishery, 1960 - 1987.(1)

	Pe	rmits				Catch			
Year	Issued	Returned	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
1960	50		1	139	505	1292	75	150	2162
1961	12		3	41	123	732	3		902
1962	9				119	214	142		475
1963	9				406	298	24		· 728
1964	15			11		900			911
1965	22	16				179	25		204
1966	3	3		3	19	20	50		92
1967	4	3			4	4			8
1968	4	3			20	156		22	198
1969	7	3			16				16
1970	1	1							0
1971	3	. 2				46			46
1972	0								0
1973	19	16			289			•	289
1974	3	, 1							0
1975	2	0							0
1976	0.								a
1977	4	4		•					0
1978	3	2							0
1979	15	2		•					0
1980	.26	15		7	. 6				13
1981	12	8		3	29		2		34
1982	35	27		84	4	31.	24		143
1983	26	21		22	36	9	79		146
1984	8	8		10		11	2		23
1985	22	1.6	1	27	16	14	26		84
1986	25	14		. 5	15				20
1987	18	17	5	31	6		16		58

⁽¹⁾ Includes only catches from Prince William Sound proper.

table 48. Copper River subsistence and personal use fisheries data, 1965 - 1987.

		Pe	rmits Iss	ued	Rep	orted Cat	eh.	Reported	Catch by	Species	To	tal Catch
			Fish			Fish						
Year		Dip Net	Wheel	Total	Dip Net	Wheel	Total	Chinook	Sockeye	Coho	Reported	Estimated
1965		982	143	1,125	7,215	5,813	13,028	664	12,760	52	13,476	16,818
1966		1,132	138	1,270	7,452	9,188	16,640	555	16,718		17,273	21,896
1967		1,166	154	1,320	6,146	8,360	14,506	419	14,457		14,876	19,007
1968		1,235	143	1,378	8,040	6,071	14,111	644	14,819	233	15,696	20,383
1969		1,415	167	1,582	18,054	6,220	24,274	719	27,604	224	28,547	29,266
1970		3,220	267	3,487	22,700	9,886	32,586	427	36,500	554	37,481	42,757
1971	(1)	4,168	374	4,542	28,115	9,370	37,485	1,363	37,517	363	39,243	48,449
1972	(2)	3,485	205	3,690	18,996	7,854	26,850	1,501	26,850	248	2 28,599	32,468
1973	(3)	3,840	305	4,145	16,407	10,943	27,350	1,846	27,350	51	3 29,247	29,248
1974	(4)	3,305	288	3,593	15,143	7,657	22,800	1,141	22,800	163	4 24,104	26,001
1975		2,452	350	2,802	7,694	5,62 6	13,320	1,705	13,320		15,025	15,357
1976		2,512	451	2,963	12,130	8,321	20,451	2,017	20,451	17	22,485	23,623
1977		3,526	540	4,066	22,612	12,751	35,363	2,171	35,363	454	37,988	41,815
1978		3,313	392	3,705	12,569	6,638	19,207	2,050	19,207	633	21,890	22,029
1979		2,730	470	3,200	11,887	10,251	22,138	2,372	22,138	705	25,215	30,963
1980		2,804	399	3,203	14,650	9,805	24,455	2,256	21,437	639	24,332	35,081
1981		3,555	· 523	4,078	28,872	26,924	55,796	1,913	53,008	849	55,770	68,746
1982	(5)	5,475	615	6,090	62,614	38,120	100,734	2,532	96,799	1,246	100,577	110,006
1983		6,911	630	7,541	72,257	35,791	108,228	5,421	100,995	1,690	108,106	118,728
1984	s	104	458	562	1,288	20,374	21,662	415	20,999	237	21,651	23,393
1	P	5.,311	. 17	5,328	46,018	223	46,241	1,592	44,079	552	46,223	49,940
1./	s&p	5,415	475	5,890	47,306	20,597	67,903	2,007	65,078	789	. 67,874	73,033
1985		4,153	533	5,686	29,856	22,877	52,733	1,673	50,488	544	52,705	64,200
1986	s(6) 39	366	405	645	25,136	25,781	622	24,890	264	25,776	28,423
	p	3,966	, 65	4,031	41,641	1,054	42,695	2,294	39,794	521	42,609	44,047
	s&p	4,005	431	4,436	42,286	25,190	68,476	2,916	64,684	785	68,385	
1987	s(6) 59	372	431	1,148	21,821	22,969	541	22,286	100	22,969	35,035
	P	4,186	73	4,259	42,301	470	42,771	2,739	39,614	398	42,771	46,115
	s&p	4,245	445	4,690	43,449	22,291	65,740	3,280	61,900	498	65,740	81,150

⁽¹⁾ Last use of Dip Net/Fishwheel combination permits.

⁽²⁾ First issue of permits at Chitina

⁽³⁾ Last "Blacklist" used

⁽⁴⁾ Issue of permits at Chitina and Glennallen only.

⁽⁵⁾ Return requirement enforced.

⁽⁶⁾ Subsistence dip net catch estimated.

s = subsistence

p = personal use

s&p = total catch (1984,1986, and 1987)

Table 49. Formal forecasts and projections of commercial salmon harvest by district and species, Prince William Sound, 1988.(1)

----- PRELIMINARY -----

COMMERCIAL HARVEST (1,000's of fish)

District	King	Soci	keye	Coho	Pink	Chur	m
Copper River(2)	25 - 44	598 -	804	250 -350	Martin American	:	
Bering River(3)		20 -	30	125 -175			•
Coghill-Unakwik(4))	54 -	83		1,200 - 1,700	200 - 40	00
Eshamy(5)		25 -	35			80 - 10	00
General Purse Sein Districts(6)	ne	120 -	160		10,800 -19,300	460 - 98	80
Area Total	25 - 44	817 -1	112	375 -525	12.000 -21.000	740 -1.48	

- (1) Harvest estimates are only made for those species which constitute a significant portion of the catch. The pink salmon harvest projection does not include 3.7 million fish projected for harvest by hatcheries for cost recovery.
- (2) Formalized forecast procedures are used for Copper River king and sockeye returns. Copper River coho catches are based on mean fishery performance adjusted by escapement levels and environmental conditions.
- (3) Bering River sockeye and coho harvest estimates are based on mean fishery performance adjusted by escapement levels and environmental conditions.
- (4) Coghill sockeye returns are formally forecast using a sibling relationship model for the major age class and spawner recruit relationships for other age classes. The pink and chum harvest represents a projection of harvest component inside the Coghill district for the area production.
- (5) No formal forecast exists for Eshamy sockeye production. The chum production is based on anticipated returns to the Main Bay hatchery.
- (6) Formal forecast procedures are used for estimating wildstock returns for pink and chum salmon in Prince William Sound. Hatchery contributions are based on known fry releases and assumed marine survival rates. Sockeye production is based upon mean fishery performance.

Table 50 . Summary of season, location, effort and harvest by gear type in the Prince William Sound herring fishery, 1987.

			Fishing		Harvest (sho	ort tons)	
Fishery	Area	Date(s)	Duration	Effort	Roe on Kelp	Herring	
Sac Roe Seine	North Shore	4/08 4/09	1 hr. 1/2 hr.	62 75		2,446.7 2,535.5	=
	Total		1-1/2 hrs	. 96		4,982.2	•
Sac Roe Gillnet	North Shore	4/10 4/11	12 hrs. 12 hrs.	16 17		269.9 263.4	5
	Total		24 hrs.	25		533.3	•
Spawn on Kelp(1)	North Shore	4/15 4/16 4/17	6 hrs. 18 hrs. 20 hrs.	36 40 50	13.7 32.8 41.7	109.6 262.4 333.6	=
	Total		44 hrs.	60	88.2 (2)	705.6	(3)
Pound Kelp(4)	Galena Bay Port Fidalgo			111	61.2	765.0	=
•	Total	·		111	61.2	765.0	(5)
Bait/Food(6)	General	9/01-10/2	4/86	5		1,276.2	=
	Total Equiva	lent harve:	st of herri	ng		8,262.3	=

- (1) The harvest by divers of naturally occurring herring roe on native kelp species in P.W.S.
- (2) The harvest consisted of approximately 90% ribbon kelp and 10% sieve and hair kelp.
- (3) The equivalent harvest of herring due to the removal of reproductive capacity from the population based on the assumption that the average fish roe recovery is 10%, and 80% of the spawn on kelp harvest weight consists of eggs.
- (4) The harvest of herring roe on kelp produced in net pens or pounds.
- (5) The equivalent harvest of herring due to stress mortality and the removal of reproductive capacity of the population based on the assumption that 12.5 tons of herring are used to produce 1 ton of roe on kelp.
- (6) Purse seines were the only gear type used for the 1986-87 bait harvest.

Table 51. Herring sac roe fisheries effort and harvests by gear and the peak aerial survey estimates in Prince William Sound, 1969 - 1987.

	Sei	ine Fishery	Gilln:	et Fishery	Combined F	isheries
Year	Effort (Boats)	Harvest (Tons)	Effort (Boats)		Peak Aerial Est. (Tons)	
1969 1970	6	355.7				<u>†</u> 355.7
1971	12	919.3				919.3
1972	16	1,772.6				1,772.6
1973	28	6,984.4				6,984.4
1974	72	6,368.2	3	3.8		6,372.0
1975	76	6,081.5			1,323	6,081.5
1976	66	2,584.5			8,809	2,584.5
1977	60	2,282.9	. 1	1.6	18,643	2,284.5
1978	75	1,329.6	38	61.7	9,228	1,391.4
1979	89	4,138.6			31,631	4,138.6
1980	74	6,043.2	(1) 16	264.5	49,844	6,307.7
1981	101	13,770.6	18	234.6	51,090	14,005.1
1982	95	7,148.3	18	393.9	34,861	7,542.2
1983	103	(2) 2,724.2	22	105.4	33,803	2,829.6
1984	105	(3) 5,836.9	24	342.9	45,655	6,179.8
1985	103	(4) 7,080.3	21	413.3	.26,162	7,493.6
1986	105	9,828.1	25	448.6	15,150	10,276.7
1987	96	4,982.2	25	533.3	24,090	5,515.5

^{(1) 350 - 500} tons dead loss.

^{(2) 103} boats participating but only 72 actually made deliveries.

^{(3) 105} boats participating but only 101 actually made deliveries.

^{(4) 103} boats participating; 62 made deliveries at Montague and 90 made deliveries in the Northern district.

Table 52. Herring eggs - on - kelp harvests from natural spawning Prince William Sound, 1969 - 1987.

	Effort	Harve	est	Herring Utili	zed(2)
Year	(Divers)	Pounds(1)	Tons	Tons	·
1969	3	5,300	2.7	21.2	
1970	29	190,300	95.2	761.2	
1971	34	769,300	384.7	3,077.2	
1972	397	599,300	299.7	2,397.2	
1973	176	306,300	153.2	1,225.2	
1974	166	552,100	276.1	2,208.4	
1975	437	917,100	458.6	3,668.4	
1976	357	484,900	242.5	1,939.6	
1977	164	417,000	208.5	1,668.0	
1978	66	140,900	70.5	563.6	
1979	198	473,200	236.6	1,892.8	
1980	469	612,300	306.2	2,449.2	
1981	214	122,400	61.2	489.6	
1982	151	309,600	154.8	1,238.4	
1983	186	303,200	151.6	1,212.8	
1984	225 (3)	SEASO	ON CLOSED	0.0	
1985	95	41,300	20.7	165.2	
1986	29	95,200	47,6	380.8	
1987 	61	176,400	88.2	705.6	

⁽¹⁾ Rounded to nearest 100 pounds.

⁽²⁾ Indicates the annual removal of reproductive capacity from the population based on the assumption that average fish roe recovery is 10% and 80% of spawn on kelp harvest weight consists of eggs.

⁽³⁾ Permits issued.

Table 53. Herring eggs on kelp produced in pounds, Prince William Sound, 1979-1987.

								PRODUCTIO	N(6)		
	(1)	(2)	(3)	(4)	Herring(5)						
	Fishery	Permits	Pounds 1	Producing	Utilized	Ribb	on	Macrocy	stis	Total	L
Year	Dates	Issued	Constructed	Pounds	(Tons)	lbs.	Tons	lbs.	Tons	lbs.	Tons
1979		2	0								
1980	4/14	14	4	2	27 - 45	1,771	0.9	880	0.4	2,651	1.3
1981	4/14	18	. 18	7	110 - 157	17,217	8.6	2,100	1.1	19,317	9.7
1982	4/29-5/10	25	20	18	260 - 385	50,165	25.1	900	0.5	51,065	25.5
1983	4/30-5/04	4 47	38	26	200 - 303	35,364	17.7	20,100	10.1	55,464	27.7
1984	4/24-5/0	65	45	37	260 - 360	12,839	6.4	37,572	18.8	50,411	25.2
1985	4/25-5/0	7 81	59	50	450 - 550	24,199	12.1	56,131	28.1	80,262	40.1
1986	4/21-4/28	3 104	82	81	700 - 800	0	0	144,400	72.2	144,400	72.2
1987	4/10-4/2	1 111	111	108	700 - 850	0	0	1,22,400	61.2	122,400	61.2

⁽¹⁾ Dates that the fishery was opened to seine herring for placement into pounds.

⁽²⁾ Permits issued to applicants on register prior to the March 1 deadline.

⁽³⁾ Number of individual pounds constructed by the April 1 deadline, and consequently the number of individuals receiving an equal allocation of the guideline harvest.

⁽⁴⁾ Number of pounds that were successful in producing roe on kelp product. Due to the group cooperation in this fishery production is frequently reported for a few individuals whose pounds did not produce roe on kelp product.

⁽⁵⁾ Tonnage expressed as a range since herring are estimated visually and are not actually weighed.

⁽⁶⁾ Production figures represent processed weights as reported on fish tickets.

Table 54. Commercial herring food and bait harvest by day, as reported on fish tickets, Prince William Sound, 1987.

			Harve	st(1)	Cumulative H	arvest
Year	Date	Effort	1bs.	Tons	lbs.	Tons
1987	9/02	1	62,600	31.3	62,600	31.3
11	9/09	1 .	49,000	24.5	111,600	55.8
77	9/10	1	90,000	45.0	201,600	100.8
***	9/14	2	141,600	70.8	343,200	171.6
tt	9/16	1	60,400	30.2	403,600	201.8
tt .	9/17	2	186,400	93.2	590,000	295.0
11	9/21	1	18,800	9.4	608,800	304.4
17	9/28	1	130,800	65.4	739,600	369.8
11	9/29	1	11,400	5.7	751,000	375.5
17	10/01	1	78,200	39.1	829,200	414.6
17	10/02	1	51,400	25.7	880,600	440.3
17	10/03	1	53,800	26.9	934,400	467.2
17	10/04	1	25,200	12.6	959,600	479.8
**	10/05	1	45,600	22.8	1,005,200	502.6
" (1)	10/06	1	88,000	44.0	1,093,200	546.6
19	11/10	1	61,000	30.5	1,154,200	577.1
11	11/11	4	391,600	195.8	1,545,800	772.9
**	11/12	7	833,200	416.6	2,379,000	1,189.5
		7	2,379,000	1,189.5		

⁽¹⁾ All harvests from the General District. Effort was concentrated in the vicinity of Knowles Head.

⁽²⁾ Due to the size and quality of the harvest the bait herring fishery was closed on October 6th and re-opened on November 9th.

Table 55. Herring bait and food harvests in Prince William Sound in short tons, 1970 - 1987.(1)

		Seine	Pai	r Trawl	Mid-W	ater Traw:	l Ott	er Trawl	
Year	Effort	Harvest Tons	Effort	Harvest Tons	Effort	Harvest Tons	Effort	Harvest Tons	Total Tons
1970	1	10.0							10.0
1971	2	20.0							20.0
1972	1	4.9							4.9
1973	1	8.5							8.5
1977-78(2)) 2	17.0	2	145.3	1.	90.4			252.7
1978-79(3)) 2	195.4	2	988.8	1.	103.2	1	2.5	1,289.9
1979-80(4)) 1	510.9	2	145.1					656.0
1980-81(5)) 3	1,030.5	3	386.0					1,416.5
1981-82(6)) 6	1,189.5	. 2	73.1					1,262.6
1982~83	5	883.2							883.2
1983-84	2	273.6							273.6
1984-85	2	1,021.7						•	1,021.7
1985-86(7)) 5	1,118.1							1,118.1
1986-87(8)) 5	1,276.2							1,276.2
1987-88(9)	7	1,189.4							1,189.4

- (1) No harvest in years not listed.
- (2) Starting 1977 bait herring season includes portions of two calendar years, unless closed by E.O.
- (3) Fishery opened by emergency order on October 16,1979 and extended on January 7, 1980. Deliveries made through March 2.
- (4) Fishery season opened by emergency order September 15,1979, closed Dec. 31, 1979, and reopened by emergency order from Feb. 16 28, 1980.
- (5) Fishing season opened by regulation on September 15,1980 and closed by emergency order on November 7,1980.
- (6) Fishing season opened by regulation on September 15,1981 and closed by emergency order on September 30,1981.
- (7) Fishing season opened by regulation on September 1,1985 and closed by emergency order on February 15,1986.
- (8) Fishing season opened by regulation on September 1,1986 and closed by emergency order on October 24,1986.
- (9) Fishing season opened by regulation on September 1, 1987 in the General District. The Northern and Eastern Herring Districts opened on September 23. The season was then closed by emergency order on October 6 for a period of five weeks, reopened on November 9, and closed for the duration of the 1987-88 season on November 12, 1987.

Table 56. Peak aerial survey herring biomass estimate and miles of spawn by area, Prince William Sound, 1987.

Survey Area	Peak Biomass Est.(Tons)	_	Total Miles of Spawn
SIMPSON BAY	0		0
SHEEP BAY	0		0
PORT GRAVINA	370	4/07	7.0
PORT FIDALGO	350	4/13	9.0
TATITLEK AREA	1,640 (1)	4/9&5/4	
VALDEZ ARM	920	4/08	
PT. FREEMANTLE - GRANITE PT.	830	4/13	1.5
FAIRMONT BAY - WELLS BAY	17,240 (2)	4/07	19.25
UNAKWIK INLET - EAGLEK	0	•	5,5
ESTHER ISLAND	0		0
PERRY ISLAND	0		0
NAKED ISLAND GROUP	1,670	4/12,	2.3
KNIGHT ISLAND AREA	0	•	0
MONTAGUE ISLAND	1,070	4/28	8.5
GREEN ISLAND	0	•	0
HINCHINBROOK ISLAND	0		0
HAWKINS ISLAND	0		0
Total	. 24,090 Tons		72.75 Miles

⁽¹⁾ Two peaks were observed in this area, 1,130 tons on 4/09, and 510 tons on 5/04.

Table 57 Age, sex and size composition of Pacific herring sampled from the spring purse seine sac roe fishery, Prince William Sound, 1987.

				Ma	Males					2	remales				:	pexes comprise		ı	
Sample		 	# 1 1 1 1 1 1 1	Le	Length	1	Weight			Ler	Length	Wei	Weight			Lei	Length	Wei	Weight
Location and Date	Age (Years)	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.
t t 1 1 1 1 1 1 1	2	0	0.0	NA	NA	NA.	NA	0	0.0	NA	NA NA	NA	NA	0	0.0	NA	NA	NA	NA NA
	l m	38		183	9	6/	0,	24	4.1	184	9,	83	17	63	10.7	183	7	80	13
	7	15		197	7	107	16	21	3.6	200	6	105	19	36	6.1	199	œ	106	17
	νn	28		207	10	123	16	33	5.6	208	œ	128	19	61	10.4	208	0,	126	18
Cedar Bay	ø	103	-	214	œ	138	1.6	92	15.7	216	6	149	20	195	33.2	215	œ	143	19
8 Apr. 1987	7	80		218	ec;	151	61	7.5	12.8	223	11	166	28	155	26.4	220	10	158	25
		13		230	יי	172	1.4	-	1.5	227	∞	169	10	21	3.6	229	7	171	13
	o	1 =		926	· -	175	26	7	1.2	236	00	197	13	180	. m	232	· ac		2.4
	, -	1 :	i -	936		186	2 -		1 O	235	90	192	19	22	3.7	235	σ	180	. 8
	11	10		2 2 2	- α	0 0 0	13	1 4		676) 67	212	26	1 5		220	οα	104	26
	1 5	h -		250	0 0	707	7 0	•		7 4 Z	7 2	NA MA	3 N	ן ר	9.0	250) c	203	9 0
	7 7	4 6	3.0	77	2 5	7 7	2 2			NA MA	MA	1 V II	MA	4 6	10	7 Y	2 2	707	2 2
	13	5	0.0	NA	NA	NA	NA.		9	# I	W 1	NA I	#N		0 !	¥ I	NA.	NA.	NA I
	Total	308	52.5	212	16	137	33	278	47.4	215	16	147	37	587	100.0	214	16	142	35
	These		2, 2, 2, 2, 3, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	916	1.5	148	76		46.9	226	17	170	37	13	100.0	222	1.5	158	33
	3)	Ì	l		1	•			1 1		 						
		1	; 	Ma	Males	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	remares	Tes		1 1 1	1 2 1 1 1		Sexes	bexes combined	G.	t t t t
Sample				Le	Length	!	Weight	,		Ler	Length	Wet	Weight			Leı	Length	Wei	Weight
Location	Ago			Me i	2+4 2+4	Me de	S+4			Mean	Std.	Mean	Std			Σ TE α	Std	1 \(\overline{\pi} \)	Std
Date	(Years)	Number	Percent		Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(gm)	Dev.
				-										1 1					[[] []
	7	0	0.0	NA	NA	NA	NA	ا ا	7.0	1/1	5 (2 ;	- ;	-	7.0	1/1	-	£ ;	,
	en ·	9		184	_	85	ָר ה.	4.1		186	x5 (2 5	ફ્યા - ંત	101	17.0	185	~ (e 1	1;
	4	20		195	on :	100	<u>:</u>	27	ų. 1	203	x 0 (113	CT CT	7 4	6.7	200	י ע	707	10
	5	28		205	7	120	10	30	0.0	270	י יכ	87.7	8	90	7.6	707	00	124	8
Pay Day	9	66		215	œ	142	17	84	14.1	217	ού <u>1</u>	150	19	183	30.8	216	œ ·	146	18
Point		80	-	224	_	160	19	74	12.4	226	10	169	7.7	154	25.9	225	ייכ	164	77
8 Apr. 1987	8 -	ω ;		229	10	170	5 1	13	2.2	234		1.71	57	21	n σ	232		171	5.5
	o,	11		232	œ	181	12	in i	6.0	847		707	η,	14	4.5	730	07	186	77
	10	7		238	13	197	22	e) .	0.5	241	en i	210	o ;	10	1.7	239	11	201	50
	11	2		252	σ'n	219	6	eń	0.5	241	o v	207	21	5	8.0	245	11	211	18
	12	0	0.0	NA	NA	NA	NA	(- (0.2	250	0	222	0	ᆏ	0.2	250	0	222	0
	13	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA.	NA	NA	0	0.0	NA	NA	NA	NA
	Total	315	52.9	211	18	134	36	280	47.1	214	17	142	37	595	100.0	212	18	1.38	37
	Unaged	8	40.0	216	ıщ	138	16	8	60.09	228	2	,150	80	5	100.0	223	9	145	13
1			1	1							-		1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				1	

-Continued-

Table 57.Age, sex and size composition of Pacific herring sampled from the spring purse seine sac roe fishery, Prince William Sound, 1987 (continued).

			1 1 1 1 1 1	Males	8.5		 	! ! ! ! ! !	! ! ! ! !	Females	les	 	 	! ! ! ! !	 	Sexes	Combined	 	1 1 1 1
Sample		i 		Len	Length	Wei	Weight	t t t t) 	Let	Length	Wei	Weight] 		Ler	Length	Weight	ght
Location Age and Age Date (Years)		Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.
	2	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	. AN	NA	0	0.0	NA	NA	NA	NA
	9	59	10.1	179	80	78	ο,	43	7.4	180	ø	82	12	102	17.4	179	œ	80	10
	4	28	4.8	194	10	101	16	28	4.8	196	œ	109	14	56	9.6	195	φ,	105	16
	5	33	5.6	201	œ	116	12	21	3.6	205	7	126	16	54	9.2	203	æ	120	14
Well's Bay	9	96	16.4	210	σı	138	15	96	16.4	213	00	147	16	192	32.8	212	6	142	16
8 Apr. 1987	7	70	12.0	215	6	149	17	71	12.1	221	o v	164	20	141	24.1	218	10	157	20
-	80	o,	1.5	219	12	154	17	6	1.5	224	Q,	176	24	18	3.1	221	11	165	77
•	ο,	7	0.7	224	7	170	12	4	0.7	230	2	184	12	œ	1.4	227	9	177	14
-	10	. 2	0.3	244	7	209	5	3	6.0	233	89	191	14	7	1.2	236	6	196	15
-	11	4	0.7	236	7	193	17	m	0.5	230	m	191	4	7	1.2	233	9	192	13
-	12	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
.	13	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
Total	1	305	52.1	204	17	125	32	280	47.9	209	17	139	35	585	100.0	206	17	132	34
Unaged	ed	œ	53.3	202	21	114	35	7	7.94	208	10	146	24	15	100.0	205	17	129	34

Table 58. Age, sex and size composition of Pacific herring sampled from the spring gillnet sac roe fishery, Prince William Sound, 1987.

; ; ; ; ; ; ; ; ;				Ma]	Males	! ! !		; ! ! ! !	1	Females	tles	 	1 ! ! ! !	! ! ! ! !	 	Sexes	Sexes Combined	1 1 1 1 1	1 1 1 1
Sample				Ler	Length	Wei	Weight			Ler	Length	Weight	ght		 	Len	Length	Weight	ght
Location and Date	Age (Years)		Number Percent	Mean (mm)	Std. Dev.	Mean (gm)	Stď. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.
	2	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA.	NA NA
	ന	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	4	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	ò	0.0	NA	NA	NA	NA
	5	oô	1.4	216	9	141	12	10	1.7	219	7	157	13	18	3.1	218	7	150	15
Well's Bay	9	88	15.0	218	9	150	13	89	11.6	221	7	159	16	156	26.6	219	7	154	15
10 Apr. 1987	7 7	128	21.8	222	7	156	13	84	14.3	225	9	165	17	212	36.1	223	7	160	15
	œ	94	7.8	226	œ	162	17	27	4.6	230	7	176	18	73	12.4	227	œ	167	13
	9	23	3.9	234	'n	177	16	14	2.4	232	∞,	172	17	37	6.3	233	7	175	17
	10	35	6.0	234	80	181	22	19	3.2	237	7	192	20	54	9.2	235	œ	185	22
	11	15	2.6	237	æ	187	17	14	2.4	238	7	197	10	29	6.4	237	89	192	15
	12	7	1.2	241	7	190	21	a	0.0	NA	NA	NA	NA	7	1.2	241	7	190	21
•	13	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	Total	350	59.6	225	6	161	19	237	40.4	226	6	169	20	587	100.0	225	6	164	20
	Unaged	6	69.2	219	10	150	17	4	30.8	228	9	169	6	13	100.0	222	10	156	17
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								1 1 1 1 1 1 1 1			1111111		1 1 1 1 1 1 1 1	

Table 59. Age, sex and size composition of Pacific herring sampled from purse seine catches in the spring roe on kelp in pounds fishery, Prince William Sound, 1987.

: : : : : : : : : : :		 	1	Males	les				; ! ! ! !	Females	les	- 1 1 1 1				Sexes	Sexes Combined	q	
Sample			; 	Lei	Length	1	Weight		-	Length	gth	Weight	ght			Len	Length	Wei	Weight
Location and	Age			Mean	Std.	Mean	Std.			Mean	Std.	Mean	Std.			Mean	Std.	Mean	Std.
Date	(Years)	Number	Percent	(mm)	Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(Em)	Dev.
	2	a	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	m	107	18.3	177	œ	71	10	83	14.2	177	6	73	15	190	32.4	177	6	72	12
	4	22	3.8	197	10	102	17	20	3.4	191	11	16	17	42	7.2	194	11	66	17
	5	25	4.3	200	11	113	20	26	4.4	208	12	125	23	51	8.7	204	12	119	22
Boulder Bay	9	7.5	12.8	215	6	141	20	82	14.0	218	œ	151	19	157	26.8	217	6	146	20
11 Apr. 1987		64	4.8	221	80	152	19	97	7.8	225	11	167	25	95	16.2	222	10	159	23
ì		10	1.7	232	5	178	25	Q,	1.5	232	9	184	11	19	3.2	232	9	181	20
	6	80	1.4	233	4	177	22	m	0.5	241	2	202	15	11	1.9	235	'n	184	23
	10	œ	1.4	231	10	185	22	4	0.7	242	7	203	20	12	2.0	235	10	191	23
	11	7	0.3	238	5	211	14	9	1.0	244	9	218	21	00	1.4	243	9	216	20
	12	1	0.2	227	0	169	0	0	0.0	NA	NA	NA	NA	г	0.2	227	0	169	0
	13	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Total	307	52.4	202	22	117	42	279	47.6	206	23	128	46	586	100.0	204	23	122	45
C	Unaged	4	28.6	217	7	151	20	10	71.4	220	17	159	36	14	100.0	219	15	156	33
	1	 					; 1 1 1 1 1	! ! ! !		! ! ! !	; ; ; ; ;	1 1 1 1 1	1 1 1 1 1 1 1	! ! ! !	1 1 1 1 1 1		[[[]		
	1 1 1 1 1 1	1	1	Ma]	Males					Females	les	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Sexes	Sexes Combined	P.	1
Sample		1		Ler	Length		Weight		 	Length	gth	Weight	sht	: ! ! ! !	: : : : : :	Len	Length	Wei	Weight
Location	Age			Mean	Std.	Mean	Std.			Mean	Std.	Mean	Std.			Mean	Std.	Mean	Std.
Date	(Years)	Number	Percent	(mm)	Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(mg)	Dev.	Number	Percent	(mm)	Dev.	(gm)	Dev.
		er	0.5	147	6	4.5	11	5	0.8	153	1.4	4.9	13		1.4	151	12	87	12
	1 67	294	49.7	167	. 6	9	6	212	35.9	169	· œ	65	6	506	85.6	168	6	62	G,
	4	29	4.9	179	15	7.7	19	16	2.7	174	80	7.1	10	4.5	7.6	177	13	7.5	16
	5	o v	1.5	195	12	105	19	4	0.7	168	12	9/	24	13	2.2	187	17	96	25
Port Fidalgo		11	1.9	199	11	111	24	9	1.0	212	œ	136	14	17	2.9	204	12	120	24
13 Apr. 1987		8	0.3	215	Н	139		0	0.0	NA	NA	NA	NA	5	0.3	215	⊣ :	139	
	œ 1	o :	0.0	NA	NA	NA :	NA 	0	0.0	Y S	NA NA	NA Y	NA Y	0 0	0.0	NA V	NA	AN X	NA NA
	, ,	0 (0.0	A A	W X	W Y	Y Y	.		4 4	N N	4 X	\$ X			. VIA	e v	Ç V	d AN
	<u> </u>	-	0.0	NA NA	A V	NA N	NA N	,		NA NA	NA N	NA NA	NA NA	,	9 6	NA NA	AN AN	AN AN	d X
	1 5	.	9 0	V V	A N	NA N	NA N	o	0 0	NA	NA	NA	NA	,	9 0	NA A	NA NA	NA	NA
	13	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
				0.5		9.9		676		170	1 6	6.3	4	F.0.1	0 001	170	1.9		1.6
	Total	34.8	6.80	n/T	L3	C0	T/	243	41.1	0/1			CT	TAC	0.11	D	177	3	
	Unaged	9	66.7	168	14	64	16	e	33.3	168	7	59		6	100.0	168	11	63	14
		! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1	 				in i noo									

-continued-

Table 59. Age, sex and size composition of Pacific herring sampled from purse seine catches in the spring roe on kelp in pounds fishery, Prince William Sound, 1987 (continued).

		! ! ! !		Ma	Males	1	 		1 1 1 1 1	Femal.es	Les					Sexes	Sexes Combined		
Sample		1 1 1 1 1	1	Le	Length	134 134	Weight	t 1 1 1) 	Len	Length	Wei	Weight	; [] ! !		Len	Length	Weight	ht
Locallon and Date	Age (Years)	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.
					V.V.	AM	NA M		0 0	160		, 82			6 0	160		a r	0
	4 "	8 8	2.0	168	ğ α	63	đ	196	34.48	170	ο α	20	, =	787	1 70	169	00	9 4	9 0
	7 - 4	33		173	14	71	17	25	7. 4	176	11	80	16	57	10.0	174	13	75	17
	40	, 0		- 60	•	2.6	19		6.0	187	12	97	14	77	2.5	188	10	26	15
Two Moon Bav	9	, 10	7	200	17	111	22		6.0	203	9	125	12	11	1.9	201	1	117	20
16 Apr. 1987		, w	0.5	202		112	ļ		0.2	231	0	167	0	4	0.7	209	14	126	24
•		0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	6	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	10	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	11	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	12	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	13	0	0.0	NA	NA	NA	NA	0	0.0	NA.	NA	NA.	NA	0	0.0	NA	NA	NA	NA
	Total	338	59.2	170	11	99	14	233	40.8	172	11	73	16	571	100.0	171	11	69	15
0-	Unaged	20	69.0	168	10	64	13	6	31.0	167	10	99	14	29	100.0	168	10	64	14
	 			 	 	1	! !		 	[! ! ! ! ! !	 	: : : :	1 1 1 1 1 1 1 1	 	; ; ; ; ;	1	i : :
				. Wa	Males			 	[; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	Females	les	! ! ! !	 	L L I I I		Sexes	Sexes Combined		
Sample				Le	Length	We.	Weight	: 	1 1 1 1 1 1 1	Len	Length	Wei	Weight	1 1 1 1 1	 	Length	gth	Weight	ht
Location	4				Std	1 M	1 P+3			Mean Transfer	Std.	Mean	Std.			Mean	Std.	Mean	Std.
aj	(Years)	Number	Percent	(mm)	Dev.		Dev.	Number	Percent	(mm)	Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(mg)	Dev.
 	2	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	7	0.3	NA	NA	NA	NA
	m	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	505	87.7	NA	NA	NA	NA
	7	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	36	6.3	NA.	NA	NA	NA
	'n	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	13	2.3	NA	NA	NA	NA
Boulder Bay	9	0	0.0	NA	NA	NA	NA :	0 (0.0	NA ;	NA H	NA:	NA :	Ξ,	o, ,	NA:	NA	NA:	NA ::
23 Apr. 1987	~ 0	0	0.0	AN .	NA Y	N S	NA NA	-	0.0	NA VIA	NA V	NA	NA NA	۰.) ·	NA NA	NA NA	K 2	NA M
	o o	• •	9.0	NA N	NA N	NA	N N	3 6	0.0	NA	NA	NA N	NA NA	-1 Y1	0.2	NA	NA	NA	Y N
	10		0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	11	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA.	NA	NA	H	0.2	NA	NA	NA	NA
	12	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	Đ	0.0	NA	NA	NA	NA
	13	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA.	NA	NA	NA
- · · · · · · · · · · · · · · · · · · ·	Total	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	576	100.0	NA	NA	NA	NA
	unaged	0	0.0	NA	NA NA	NA	NA NA	0	0.0	NA	NA	NA	NA	24	100.0	NA	NA	NA	NA
			1		1	1													1

Table 60. Age, sex and size composition of Pacific herring sampled from purse seine catches in the fall bait and food fishery, Prince William Sound, 1987.

				Ma	 Males	: : :		!		Females	des.					Sexes	Sexes Combined		1
				Le	Length	Wei	Weight	1 2 1 1		Len	Length	Wei	Weight			Len	Length	Weight	ght
Sample Date	Age (Years)	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.	Number	Percent	Mean (mm)	Std. Dev.	Mean (gm)	Std. Dev.
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		22	8.8	169	8	67	6	24	4.1	170	7	69	6	7.0	7.9	169	7	68	6
	1 69	192	33.2	179	, o	85	15	160	27.6	179	- 00	83	12	352	8.09	179	00	84	13
	4	48	8.3	185	- 60	97	17	53	9.5	185	- x 0	92	13	101	17.4	185	80	94	1.5
	s	23	4.0	189	œ	97	13	39	6.7	189	œ	86	14	62	10.7	189	æ	86	14
	9	ю	0.5	197	10	106	17	80	1.4	202	12	114	24	11	1.9	200	12	112	23
2 Sep. 1987		4	0.7	197	7	119	15	en	0.5	199	10	116	23	7	1.2	198	∞	118	19
		0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	O	0.0	NA	NA	NA	NA
	O)	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	10	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	11	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	12	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	e) Fi	0	0.0	NA	NA	NA	NA	a	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	Total .	292	50.4	181	10	87	17	287	49.6	181	10	87	16	579	100.0	181	10	87	16
	Unaged	14	66.7	178	11	83	19	7	33.3	183	15	89	22	21	100.0	180	13	85	20
				Ma	Males					Females	Les] 		1	Sexes	Sexes Combined	H	[
				Le	Length	Wei	Weight			Len	Length	Wei	Weight			Len	Length	Weight	ght
Sample	Age			Mean	Std.	Mean	Std.			Mean	Std.	Mean	Std.			Mean	Std.	Mean	Std.
Date	(Years)	Number	Percent	(um)	Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(gm)	Dev.	Number	Percent	(mm)	Dev.	(gm)	Dev.
l 	2	. 50	9.1	168	9	99	7	64	9.0	166	9	99	7	66	. 18.1	167	ø	65	7
	ຕ	122	22.3	176	6	78	12	118	21.6	177	æ	78	11	240	43.9	176	έο	78	12
	4	40	7.3	185	10	93	15	53	7.6	188	œ	93	12	93	17.0	187	σ.	93	E :
	5	27	6.4	190	6	100	17	55	10.1	195	6 ;	106	16	85	15.0	193	a n c	104	\
10 Man 1007		2 +	٠. د د	66.0	.	118	5	70	2, 2	200	11	111	77	97	e o	100	y (112	12
. ACW 77	~ 80	40	0.0	NA	NA	NA NA	NA	٠ ٦	0.2	207	9 0	131	0		0.2	207	0	131	0
	• •	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
	10	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA.	NA	NA	NA
	11	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA.	NA	NA
	12	0	0.0	NA	NA	NA	NA	a	0.0	NA	NA	NA	NA	Φ	0	NA	NA	NA	NA :
	13	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA	0	0.0	NA	NA	NA	NA
1 1 1 1 1 1	Total	250	45.7	178	12	82	18	297	54.3	182	14	98	20	547	100.0	180	13	84	19
 	Unaged	31	58.5	180	14	84	21	22	41.5	187	15	92	21	53	100.0	183	15	87	21
1									1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1	

Appendix Table A. Calendar weeks used in reporting catch statistics in 1987.

Week	From	Through	Week .	From	Through
1	01-Jan	03-Jan	27	28-Jun	04-Jul
2	04-Jan	10-Jan	28	05-Jul	11-Jul
3	11-Jan	17-Jan	29	12-Ju1	18-Jul
4	18-Jan	24-Jan	30	19-Ju1	25-Jul
5	25-Jan	31-Jan	31	26-Jul	01-Aug
6	01-Feb	07-Feb	. 32	02-Aug	08-Aug
7	08-Feb	14-Feb	33	09-Aug	15-Aug
8	15-Feb	21-Feb	34	16-Aug	22-Aug
	•		35	23-Aug	29-Aug
9 '	22-Feb	28-Feb			
10	01-Mar	07-Mar	36	30-Aug	05-Sep
11	08-Mar	14-Mar	37	06-Sep	12-Sep
12	15-Mar	21-Mar	38	13-Sep	19-Sep
13	22-Mar	28-Mar	39	20-Sep	26-Sep
14	29-Mar	04-Apr	40	27-Sep	03-0ct
15	05-Apr	11-Apr	41	04-0ct	10-0ct
16	12-Apr	18-Apr	42	11-0ct	17-0ct
17	19-Apr	25-Apr	43	18-Oct	24-Oct
18	26-Apr	02-May	44	25-0ct	31-0ct
19	03-May	09-May	45	01-Nov	07-Nov
20	10-May	16-May	46	08-Nov	14-Nov
21	17-May	23-May	47	15-Nov	21-Nov
22	24-May	30-May	48	22-Nov	28-Nov
23	31-May	06-Jun	49	29-Nov	05-Dec
24	07-Jun	13-Jun	50	06-Dec	12-Dec
25	14-Jun	20-Jun	51	13-Dec	19-Dec
26	21-Jun	27-Jun	52	20-Dec	26-Dec
			53	27-Dec	02-Jan

Appendix Table B. A sequential listing of finfish processors, location of operation, processor codes, and type of product processed in 1987.

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Names, Executive, Address Location of Operations		Type of Product
	F0243-1	Herring Salmon
Bristol Monarch 121 South River St. Seattle, Wa. 98108 Bob Morton	F0079-5	Herring Salmon
Chugach Alaska Fisheries Box 120 Cordova, Ak. 99574 Steve Mueter	F0213-7 or F0830-8	Herring Herring Bait Salmon
Copper River Fishermen's Coop Box 90 Cordova, Ak. 99574 Richard Lowe/ Leslie Justice	F0146-1	Herring Sac Roe Herring Roe on Kelp Herring Bait Salmon
Hightide Seafoods Box 1556 Valdez, Ak. 99686	F0958-5	Salmon
Hywave, Inc. Box 520 Prince Rupert, B.C. V8J3R7 Bob Jongewaard/George Wills	F0768-7	Herring
Icicle Seafoods, Inc. Box 8 Seward, Ak. 99664 Kevin Robbins	F0133-0 F0135-2 F0138-5	Herring
Independent Cordova Alaska Fish Co. Box 581 Cordova, Ak. 99574 Erling Johnasen	F0926-9	Salmon
Inlet Salmon Box 3990 Soldotna, Ak. 99669 Scott Ersley	F0561-4	Salmon
John Cabot Trading Co. Box 10-4139 1212 E. 70th St. Anchorage, Ak. Sam	F0932-3	Salmon
Lafayette, Inc. 4250 22nd W Seattle, Wa. 98199 Harry Coles/Bob Bingham	F0072-8 F0073-0	Herring Salmon
MSP Company Box 436 Cordova, Ak. 99574 Ross Mullins/Peter Ochs	F0616-4	Herring Roe on Kelp
Nautilus Marine, Inc. Box 727 Valdez, Ak. 99686 Tom Waterer/Duane Goodman	F0815-7	Herring Salmon

Appendix Table B. A sequential listing of finfish processors, location of operation, processor codes, and type of product processed in 1987(continued).

Names, Executive, Address	·	- <b> </b>
Location of Operations	Processor Code	Type of Product
New West Fisheries, Inc. 1100 11th St. Bellingham, Wa. 98225 Bob Seidel/Gerry Thon	F0602-0	Herring Salmon
North Pacific Processors Box 1040 Cordova, Ak. 99574 Ken Roemhildt	F0232-2	Herring Herring Bait Salmon
Ocean Beauty Alaska Box 710 Kodiak, Ak. Stuart Lutton		Herring
Oceanic Seafoods 8221 44th Ave. W. Bldg. A Mukilteo, Wa. 98273 R Allen Searle	F0051-1	Herring
Phoenix Fisheries Box 716 Whittier, Ak. 99693	F0597-4	Salmon
Royal Pacific Seafoods Box 4609 Kenai, Ak. 99611 Marvin Dragseth	F0409-1	Herring
Sagaya Corporation 3309 Spenard Rd. Anchorage, Ak. 99503 Paul Reid	F0803-7	Herring Roe on Kelp
Seahawk Seafoods, Inc. Box 151 Valdez, Ak. 99686 Ray Cessarini	F0223-5	Herring Herring Bait Salmon
Seward Marine Services Box 87 Seward, Ak 99664 Margaret Anderson/Vaughan Kruger	F0082-6	Herring
Seward Fisheries Box 8 Seward, Ak. 99664 Kevin Robbins	F0135-2 F0133-0	Herring Salmon Herring Bait
St. Elias Ocean Products Box 548 Cordova, Ak. 99574	F0120-9	Herring Herring Bait Salmon
Taylor Aquatic Enterprises Box 112241 Anchorage, Ak. 99511 Gary Taylor	F0131-8	Herring Eggs on Kelp
Trident Seafoods 9420 Whitney Pl. NW Seattle, Wa. 98117 Dick Johnson/Bob Morton	F0947-6 F0946-5 F0948-7 F0949-8 F0945-4 F0944-3	Herring

Appendix Table B. A sequential listing of finfish processors, location of operation, processor codes, and type of product processed in 1987(continued).

	•	
Names, Executive, Address Location of Operations	Processor Code	Type of Product
Western Alaska Fisheries 1111 3rd Ave. Suite 1210 Seattle, Wa. 98101 Julie Feckley	F0320-5	Herring
Western Fish Producers Box 1159 Point Roberts, Wa. 98281 Bjorn Nordman	F0588-7	Herring Salmon
Woodbine Alaska Fish Co. P.O. Box 218 Naknek, Ak. 99633 Jim Scottorosano/Virginia Busey	F0214-8	Herring
YAK, Inc. 4019 21st W. Suite 202 Seattle, Wa. 98199 Alan Chaffe/Terry Clausen	F0786-1	Herring

Appendix Table C. Average price paid per pound to fishermen for salmon, herring and herring roe on kelp Prince William Sound, 1978-1987.(1)

Species	1978	1979	1980 	1981	1982	1983 	1984	1985	1986	1987
King Salmon	1.39	1.62	1.40	1.65	1,40	1.05	1.30	1.65	1.45	1.75
ALIIS Jaliion	1.39	1.02	1.40	1.05	1,40	1.05	1.30		1.43	:
Sockeye Salmon	1.23	1.40	0.85	1.40	1.01	0.95	1.15	1.50		*
Copper River					0.80	0.95	1.00	1.55	1.65	1.90
Bering River				•	0.80	0.85	0.95	1.10	1.65	1.90
Coghill/Unakwik Districts							0.90	1.20	1.37	1.75
Eshamy					•		0.85	1.10	1.34	1.60
General Purse Seine									1.35	1.45
Coho Salmon										
Copper-Bering Rivers	1.10	1.10	0.95	0.95	0.86	0.75	1.10	0.85	0.94	0.93
Prince William Sound	0.39	0.39	0.39	0.39	0.40	0.30	1.10	0,40	0.46	0.55
Pink Salmon	0.37	0.38	0.42	0.44	0.23	0.24	0.26	0.22	0.23	0.40
Chum Salmon	0.43	0.53	0.50	0.50	0.38	0.24	0.26	0.29	0.33	0.39
Herring •						•				
Sac Roe (seine)	0.36	0.63	0.16	0.20	0.19	0.30	0.38	0.38	0.41	0.55
Sac Roe (gillnet)				0.29	0.32	0.52	0.32	0.45	0.46	0.48
Spawn on Kelp (wild)	1.25	1.74	1.09	1.00	1.29	2.10		0.48	1.70	1.70
Spawn on Kelp (pound)							3.50	7.09	8.00	15.00
Bait	0.19	0.15	0.15	0.13	0.11	0.13	0.13	.125	0.09	0.15

⁽¹⁾ Based on processor reports, fish tickets and other sources. Prices are monitored through the season and a weighted average is generally used. Priced generally do not reflect post season adjustments.

Appendix Table D. Average weight of salmon in Prince William Sound commercial catches, 1978-1987(1)

Year	King	Sockeye	Coho	Pink	Chum
		C	OPPER RIVER I	DISTRICT	,
1978 1979 1980 1981 1982 1983 1984 1985	27.5 27.6 29.2 26.1 26.2 26.0 29.3 27.9 26.3	6.1 6.8 6.7 6.4 6.5 6.1 6.4 5.9 5.8	9.5 9.2 9.9 10.4 9.7 9.8 10.6 10.2 9.7	4.3 4.5 4.8 4.7 4.6 4.7 4.3	6.7 7.1 7.1 7.1 7.4 7.8 7.4
1987	27.5	6.5	8.5	3.6 4.2	7.1 6.4
10 Year Average	27.4	6.3	9.7	4.4	7.1

Year	King	Sockeye	Coho	Pink	Chum
			BERING RIVER	DISTRICT	
1978	14.2	7.0	9.2	4.3	7.3
1979	19.7	7.2	9.1	4.4	7.9
1980(2)		•	9.7		
1981	17.0	6.9	10.1	4.8	7.7
1982	18.7	6.9	9.6	3.8	7.3
1983	15.8	6.5	9.3	4.1	7.0
1984	20.5	6.6	10.4	4.0	7.3
1985	20.9	6.0	10.3	4.3	6.8
1986	24.0	6.0	9.5	4.5	6.8
1987	27.5	6.7	8.5	4.5	5.3
10 Year					
Average	19.8	6.6	9.6	4.3	7.0

⁽¹⁾ Data from fish ticket computer summaries.

⁽²⁾ No sockeye and king salmon weight data available because district closed prior to start of coho season.

Appendix Table D. Continued

Year	King Sockeye		Coho	Pink	Chum	
		COGHILL DISTRICT (3)				
1978 1979 1980 1981 1982 1983 1984 1985 1986 1987	11.8 10.6 10.7 9.1 14.0 10.2 16.9 14.6 12.9 13.0	8.2 7.4 7.2 6.5 7.8 6.7 6.8 6.3 6.7 7.3	6.1 7.5 7.5 6.2 7.0 6.1 8.4 7.8 8.3 8.9	4.2 4.3 3.8 4.7 4.4 4.3 4.2 4.1 3.6 4.0	9.3 9.0 8.8 8.6 9.2 9.8 8.9 8.0 8.3 7.3	
10 Year Average	12.4	7.1	7.4	4.2	8.7	

## (3) Includes drift gillnet catches only.

Year	King	Sockeye	Sockeye Coho		Chum
		I	PURSE SEINE	DISTRICTS	
1978	12.6	7.7	8.6	3.6	8.4
1979	11.1	6.7	8.1	3.6	9.1
1980	19.7	6.7	8.7	3.4	8.2
1981	15.9	6.3	7.3	4.2	8.7
1982	14.2	6.8	7.3	3.5	9.0
1983	17.9	5.8	8.1	3.2	9.1
1984	16.7	6.2	5.8	3.6	8.6
1985	16.1	6.1	8.3	3,4	9.1
1986	10.3	6.3	8.6	3.0	8.4
1987	12.1	6.7	7.5	3.5	7.9
10 Year					
Average	14.7	6.5	7.8	3.5	8.6

Appendix Table D. Continued

Year	King	Sockeye	Coho	Pink	Chum
		E:			
1978 1979			CLOSED CLOSED		•
1980		6.7	8.9	4.1	8.9
1981			CLOSED		
1982			CLOSED		
1983(5)	35.0	6.4	10.2	3.2	7.4
1984	8.5	6.4	7.1	3.7	8.5
1985(5)	8.5	6.2	8.8	3.6	7.5
1986	9.0	6.5	9.7	3.4	7.4
1987	13.5	6.5	5.1	3.7	7.8
10 Year(6)					
Average	14.9	6.4	8.3	3.6	7.9

⁽⁴⁾ Includes both set and drift gillnet gear.

⁽⁵⁾ General district remained closed throughout the season.

⁽⁶⁾ Average based only on those years when data was available.

Appendix Table E1. Summary of periods, dates, hours fished, and emergency orders issued for the Bering River and Copper River districts commercial salmon gillnet fisheries, 1987.

Bering River (200)			Copper River (212)			Emergency	
Periods	Dates	Hours Fished	Periods	Dates	Hours Fished	Orders Issued	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	6/15-6/16 6/22-6/23 6/29-6/30 7/02-7/03 7/06-7/07 7/09-7/10 7/13-7/14 7/16-7/17 7/20-7/21 7/23-7/24 7/27-7/28 7/30-7/31 8/03-8/04 8/06-8/07 8/10-8/13 8/17-20 8/24-8/26	24 a/ 36 36 24 b/ 24 24 24 24 26 24 c/ 36 24 c/ 36 24 d/ 72 72 72	11 12 13 14 15 16 17 18 19 20 21 22	5/13-5/14 5/18-5/19 5/21-5/22 5/25-5/26 5/28-5/29 6/01-6/03 6/04-6/06 6/08-6/09 6/11-6/12 6/15-6/16 6/22-6/23 6/29-6/30 7/02-7/03 7/06-7/07 7/09-7/10 7/13-7/14 7/16-7/17 7/20-7/21 7/23-7/24 7/27-7/28 7/30-7/31 8/03-8/04 8/06-8/07 8/10-8/13 8/17-20 8/24-8/26	24 48 36 36 24 36 36 24 24 24 24 36 24 36 24 36	2-F-E-17-87 2-F-E-18-87 2-F-E-19-87 2-F-E-19-87 2-F-E-21-87 2-F-E-23-87 b/ 2-F-E-26-87 c/ 2-F-E-35-87 c/ 2-F-E-35-87 d/ 2-F-E-41-87 2-F-E-40-87	

a/ Only gillnets with 6 inch or smaller mesh allowed after 7:00 p.m., May 21.

b/ Until further notice, the Copper River and Bering River districts will be open for 2-24 hour fishing periods per week from 7:00 a.m., Monday until 7:00 a.m., Tuesday and form 7:00 p.m., Thursday until 7:00 p.m., Friday.

c/ This weekly fishing schedule (Mon.- Tues., 36 hrs. and Thurs.- Fri., 24 hrs.) for the Copper/Bering River district will remain in effect until further notice.

d/ Effective at 7:00 p.m., August 6, gill nets with larger than 6 inch mesh can be used in the Copper and Bering River districts.

Appendix Table E2. Summary of periods, dates, hours fished, and emergency orders issued for the Coghill and Unakwik districts commercial salmon fishery, 1987.

	Unakwik (222-50)			Coghill (223)		
	Hours		Hours		Emergency	
Periods	Dates	Fished	Dates	Fished	Order Nos.	
1	6/15-6/18	87 a/	6/15-6/18	87 a/b/	2-F-E-19-87 2-F-E-20-87	
2	6/22-6/25	87	6/22-6/25	87		
3	6/29-7/01	63 c/	6/29-7/01	63 c/	2-F-E-25-87	
4	7/06-7/07	24 e/	7/06-7/07	24 d/e/	2-F-E-28-87 2-F-E-29-87	
5	7/13-7/16	81	7/13-7/16	81 f/	2-F-E-32-87	
J	//13-//10	91	7/14-7/16	54 g/	2-F-E-33-87	
	7/16 7/17	0/. 1-/	•	24 h/	2-F-E-34-87	
_	7/16-7/17	24 h/	7/16-7/17	•		
6	7/21-7/23	63	7/21-7/23	63	2-F-E-35-87	
7	7/28-7/30	63	7/28-7/30	63	2-F-E-38-87	
8	8/04-8/06	63	8/04-8/06	63	2-F-E-40-87	
		•	8/06-8/07	24 i/	2-F-E-41-87	
9	8/11-8/14	81	8/11-8/14	81 j/	2-F-E-42-87	
					2-F-E-43-87	
					2-F-E-45-87	
10	8/17-8/21	111	8/17-8/21	111	2-F-E-47-87	
11	8/26-8/28	63	8/26-8/28	63	2-F-E-50-87	
	, ,		. ,		2-F-E-51-87	
12	8/31-9/04	111 k/	8/31-9/04	111 k/	2-F-E-51-87	
13	9/07-9/11	99 k/	9/07-9/11	99 k/	2-F-E-51-87	
	-, -, -, -,	/	.,,	/		

- a/ Coghill and Unakwik districts opened to regular weekly fishing period effective 6:00 a.m., Monday, June 15th.
- b/ Effective 6:00 a.m, June 15 the inside waters on the southern shoreline of Ester Island north of a line extending from Hodgkins Point to Ester Light, including waters of Lake and Quillian bays are closed until further notice.
- c/ The Coghill and Unakwik districts are closed to fishing after 9:00 p.m., July 1. Following this closure and until further notice, the weekly fishing schedule in these districts will be 6:00 a.m, Monday until 9:00 p.m., Wednesday. In the Coghill District, the early season closure line across College Fiord will remain in effect until further notice.
- d/ The Esther Hatchery secondary terminal harvest area in the southern portion of the Coghill District open from 12:00 noon, July 6th to 12:00 noon, July 8th, a 48 hour period. The remainder of the Coghill District will be closed until further notice.

(Continued)

Appendix Table E2. Summary of periods, dates, hours fished, and emergency orders issued for the Coghill and Unakwik districts commercial salmon fishery, 1987 (continued).

e/ The length of the fishing period in the Coghill and Unakwik districts will be reduced to 24-hours closing at 12:00 noon, July 7th.

f/ Normal late season closed waters at the mouth of the Coghill River in effect after 12:00 noon, July 13th.

g/ Effective 12:00 noon, July 14th until 9:00 p.m., no closed waters in front of Coghill River.

h/ Extends the current fishing period in the Coghill and Unakwik districts an additional 24-hours.

i/ Fishing extended for 24 hours in the Esther Hatchery secondary terminal harvest area.

j/ The santuary waters of Lake and Quinllian bays in front of the Esther Hatchery will be open during this commercial fishing period. The precise opening time will be announced at the hatchery by marine VHF radio on channel 7.

k/ This 5-day per week fishing schedule (Mon.- Fri.) will remain in effect for 2-weeks after August 31. All Prince William Sound salmon districts will close for the season effective at 9:00 a.m., September 11th.

Appendix Table E3. Summary of emergency orders, periods, dates, and hours fished for the Eshamy District and Main Bay subdistricts commercial salmon gillnet fisheries, 1987.

	Crafton I Subdis (225-10,2	trict	Main Subdis	trict	
Periods	Dates	Hours Fished	Dates	Hours Fished	Emergency Order Nos.
1 2 3 4 5 7 8 9 10 11 13 14 15	6/15-6/18	87 a/	6/15-6/20 6/21-6/27 6/28-7/4 7/5-7/11 7/12-7/18 7/19-7/25 7/26-8/1 8/2-8/8 8/9-8/15 8/16-8/22 8/23-8/29 8/30-9/5 9/6-9/11	168 168 b/ 12 c/ 0 36 d/ 102 e/ 168 f/ 168	2-F-E-19-87 2-F-E-27-87 2-F-E-28-87 2-F-E-37-87 2-F-E-39-87

- a/ Fishing open for both set and drift gillnets as of 6:00 a.m., June 15 in the Eshamy District. The Crafton Island Subdistrict closed to fishing at 9:00 p.m., June 18th. The Main Bay Subdistrict open to continuous fishing until further notice.
- b/ The Main Bay terminal harvest area closed to fishing effective 12:00 noon July 3. The outside waters of the Main Bay Subdistrict will continue to be open for 7-days per week of fishing.
- c/ The Main Bay Subdistrict closed effective 12:00 noon, July 5 and will remain closed until further notice.
- d/ The terminal harvest area at the Main Bay Hatchery will remain closed for the protection of brood stock.
- e/ Outer portion of the Main Bay Subdistrict open from noon, July 29 until further notice.

  The terminal harvest area at the Main Bay Hatchery will remain closed for the protection of broodstock.
- f/ The Main Bay Hatchery terminal harvest area open for fishing effective on noon, August 5. There will be no closed waters at the head of MAIN BAY.
- g/ All Prince William Sound salmon districts closed for the season effective 9:00 a.m., September 11.

Appendix Table E4. Summary of periods, dates, hours fished and emergency orders issued for the Prince William Sound commercial purse seine salmon fishery by district, 1987.

	Emergency	Order Nos.	2-F-E-22-87	2-F-E-24-87	2-F-E-25-87	2-F-E-28-87	2-F-E-29-87	2-F-E-31-87	2-F-E-32-87	2-F-E-35-87	2-F-E-36-87	2-F-E-38-87	2-F-E-40-87	2-F-E-42-87	2-F-E-44-87	2-F-E-45-87	2-F-E-46-87	2-F-E-47-87	2~F~E-48-87	2-F-E-49-87	2-F-E-50-87	7-F-E-51-87	99 v/w/ 2-F-E-51-87
ern	Hours	Fished						63		63		63		24				63			111	111 v/	/A 66
Southeastern (228)		Dates F	1 1 1 1 1 1		•		•	7/14-7/16		7/21-7/23		7/28-7/30		87 m/n/ 8/11-8/12				8/19-8/21			8/24-8/28	8/31-9/04	99 v/w/ 9/07-9/11
e n	Hours	Fished	1							15		63	63	87 m/n				111			111	111 v/	M/A 66
Montague (227)		Dates F				•				7/23		7/28-7/30	8/04-8/06	144 1/n/p/ 8/11-8/12				8/17-8/21			8/24-8/28	8/31-9/04	9/07-9/11
ern	Hours	Fished								39		63	63	144 1/m/p/				111			111	111 v/	/m/n 66
Southwestern (226)		Dates F		٠						7/21-7/22		7/28-7/30	8/04-8/06	8/11-8/17				8/17-8/21		•	8/24-8/28	8/31-9/04	11/6-70/6/w/v 66
ern	Hours	Fished	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					63 e/g/		63		63	63	87 n/				111			111	111 v/	M/A 66
Northwestern (224)		Dates F						7/14-7/16		7/21-7/23		7/28-7/30	8/04-8/06	8/11-8/14				8/17-8/21			8/24-8/28	8/31-9/04	9/07-9/11
Ħ.	Hours	Fished	       		39	39 c/		63 d/f/		63 h/		63 1/	63 k/	87 m/n/o/				111 q/r/s/			111 t/u/	111 v/	/m/a 66
Northern (222)		Dates Fi			7/02-7/03	7/08-7/09		7/14-7/16		7/21-7/23		7/28-7/30	8/04-8/06	8/11-8/14				8/17-8/21			8/24-8/28	8/31-9/04	9/07-9/11
:	Hours	Fished	39 a/b/		63	39		63		15 1/		63		87 m/n/				63			111	111 v/	/m/n 66
Eastern (221)	. 44 	Dates Fi	6/25-6/26		7/01-7/03	7/08-7/09		7/14-7/16		7/23		7/28-7/30		8/11-8/14				8/19-8/21			8/24-8/28	8/31-9/04	9/07-9/11
<del>-</del>	Stat Week	Dates	6/21-6/27		6/28-7/04			7/12-7/18 7/14-7/16		7/19-7/25		7/26-8/1	8/2-8/8	ın			•	8/16-8/22			8/23-8/29	8/30-9/5	
Ċ	N I	*	26 (		27 (	28		29		30		31	32	33 8				3 7 8			34	35 8	36

(Continued)

Appendix Table E4. Summary of periods, dates, hours fished and emergency orders issued for the Prince William Sound commercial purse seine salmon fishery by district, 1987 (continued).

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- a/ Fishing open for purse seines in the Eastern district. The Valdez Narrows subdistrict will remain closed.
- b/ The Valdez Narrows subdistrict will be open for fishing during the previously announced fishing period in the Eastern District from 6:00 a.m. June 25 through 9:00 p.m. June 26.
- c/ Effective on 6:00 a.m., July 8 all waters north of a line extending across the head of Wells Bay will be closed and the Cannery Creek secondary terminal harvest area will also be closed until further notice.
- d/ The waters of the Northern District west of 147 40' W. long., will be closed until further notice.
- e/ The Culross Island Subdistrict of the Northwestern District will be closed to fishing until further notice.
- f/ The waters of the Northern District west of 147 40' W. long., will be reopened for fishing on 12:00 noon July 13.
- g/ The Culross Island Subdistrict of the Northwestern District will reopen for fishing on 12:00 noon July 13.
- h/ All waters of Wells Bay north of the latitude of Payday Point (60 53.6' N. lat.) in the Northern District are closed to fishing.
- i/ Until further notice, all waters of Valdez Arm and Port, including Tatitlek Narrows, Bligh Island, and Boulder Bay are closed to fishing in the Eastern District.
- j/ The waters of Wells, Cedar, and Granite bays in the Northern District are reopened to the normal closed water markers. The Cannery Creek Hatchery Management Area 3 is closed for fishing.
- k/ Effective at 6:00 a.m., August 4 until further notice, the Cannery Greek Hatchery Management Area 4 is closed. The waters inside the entrances to Jonah and Siwash bays will remain open for fishing.
- 1/ There will be a 24-hour extension for fishing in the Port San Juan Subdistrict in the Southwestern District.
- m/ The commercial fishing time in these districts will be extended for this period.
- n/ The commercial fishing time in these districts will be extended an additional 24-hours for for this period.
- c/ In the Northern and Unakwik districts, the Cannery Creek Hatchery Area 4 will open for fishing on noon, August 13. However, Cannery Creek Area 3 will remain closed until further notice.
- p/ The commercial fishing time in the Port San Juan and the Point Elrington subdistricts will be extended an additional 57-hours this period.
- q/ The Cannery Creek Hatchery Area 3 will open at 6:00 a.m., August 17, however the secondary terminal harvest area will remain closed.
- r/ At 6:00 a.m., August 19, the closed area in front of the Cannery Creek Hatchery will be reduced to the primary terminal harvest area.
- s/ The Cannery Creek Hatchery secondary terminal harvest area will close at 2:00 p.m., August 19 and remain closed until further notice.
- t/ The Cannery Creek Hatchery Area 3 will be closed effective 6:00 a.m., August 24.
- u/ The Cannery Creek Hatchery Area 3 will reopen at 6:00 a.m., August 31, however the secondary terminal harvest area will remain closed for protection of broodstock.
- v/ This 5-day per week fishing schedule will remain in effect for 2-weeks after August 31.
- w/ All Prince William Sound salmon districts will close for the season effective 9:00 a.m.
  September 11. This includes the Eastern, Northern, Coghill, Unakwik, Northwestern, Eshamy,
  Southwestern, Montague, and Southeastern districts.

Appendix Table E5. Summary of emergency order openings, closures, dates, and hours fished for the Prince William Sound hatchery salmon fisheries, 1987.

	Stat Week	(221-62)		Hatchery (222-210)	Hatchery (222-210)	Hatchery (223-61)	61)	Subdistrict (225-21)	rict -21)	Hatchery (226-61 & 226-62)	Hatchery (226-61 & 226-62)	
; [ ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	Dates	Dates	Hours	Dates	Hours Fished	Dates	Hours Fished	Dates	Hours Fished	Dates	Hours	Emergency Order Nos.
25 6/	6/14-6/20	6/13	/q			6/13		6/15				2-F-E-19-87
						•						2-F-E-20-87
												2-F-E-21-87
												2-F-E-22-87
												2-F-E-24-87
												2-F-E-25-87
	6/28-7/04	7/04	ď					7/03	e/			2-F-E-27-87
28 7/(		7/6,7/10	6 h/j/	7/08	11/	7/06-7/08	72 £/	7/05	CLOSED 8/			2-F-E-28-87
												2-F-E-29-87
												2-F-E-30-87
30 7/:	7/19-7/25	7/21,7/23	6 K/					7/24-7/25	36 1/			2-F-E-35-87
												2-F-E-36-87
31 7/3	7/26-8/1		•	7/28	<b>/</b> @	•		7/26,7/29-	- 102 1/n/	<i>-</i>		2-F-E-37-87
												2-F-E-38-87
												2-F-E-39-87
32 8/	8/2-8/8			8/04	10	8/3,8/6	24 p/q/	8/05	/1/u	-		2-F-E-40-87
												2-F-E-40.5-87
												2-F-E-41-87
33 8/	8/9-8/15		w	8/13-8/14	24 t/	8/11-8/14	168 s/			8/13-8/14	24	2-F-E-42-87
												2-F-E-42-87
												2-F-E-43-87
						•						2-F-E-45-87
34 8/:	8/16-8/22		w	8/17-8/21	111 v/w/x	<i>√</i> /×				8/15-8/17	24 n/	2-F-E-46-87
												2-F-E-47-87
							•					2-F-E-48-87
												2-F-E-49-87
35 8/	8/23-8/29			8/24	<i>y</i> / <i>x</i>							2-F-E-50-87
					•							2-F-E-51-87
36 8/	8/30-9/5		₩.	8/31-9/04	111 z/	•				9/04	3 aa/	
												2-F-E-52-87
37 9/	9/6-9/12		U	9/07-9/11	66							2-F-E-51-87
	I ! ! ! !	1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	χ)	(Continued)	1 1 1 1 1 1		# 5 1 1 1 1			

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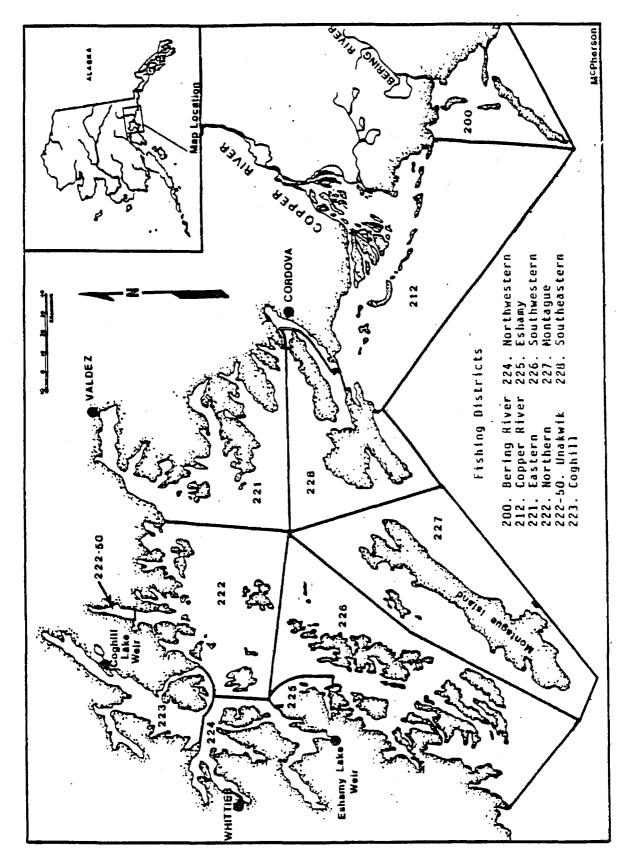
Appendix Table E5. Summary of emergency order openings, closures, dates, and hours fished for the Prince William Sound hatchery salmon fisheries, 1987 (Continued).

- a/ Fishing open continuously in the Main Bay Subdistrict until further notice. The Main Bay Subdistrict will close by emergency order announcement when the chum catch exceeds 20,000 fish or the sex ratio of hatchery chums exceeds 40 percent females.
- b/ The Solomon Gulch Hatchery special harvest area is open to the capture and sale of salmon by the hatchery operator. The special harvest area is expanded to include all waters from Allison Point to 500 yards east of the Solomon Gulch Creek.
- c/ Effective 6:00 a.m., June 15 the inside waters on the southern shoreline of Ester Island • north of a line extending from Hodgkins Point to Ester Light, including the waters of Lake and Quillian bays are closed until further notice.
- d/ The Solomon Gulch Hatchery special harvest area is closed for the capture and sale of salmon by the hatchery operator after 12:01 a.m., July 4. From 7:00 a.m., July 6 until further notice there will be a 6-hour daily commercial seine opening of the Solomon Gulch special harvest area, from 7:00 a.m. until 1:00 p.m. For these openings, the special harvest area is defined as the waters of Port Valdez from the beach marker at Allison Point to the beach marker 500 yards east of Solomon Gulch Creek and extending 1,000 yards off shore to a line of bouys.
- e/ The Main Bay terminal harvest area is closed to fishing effective 12:00 noon July 3.

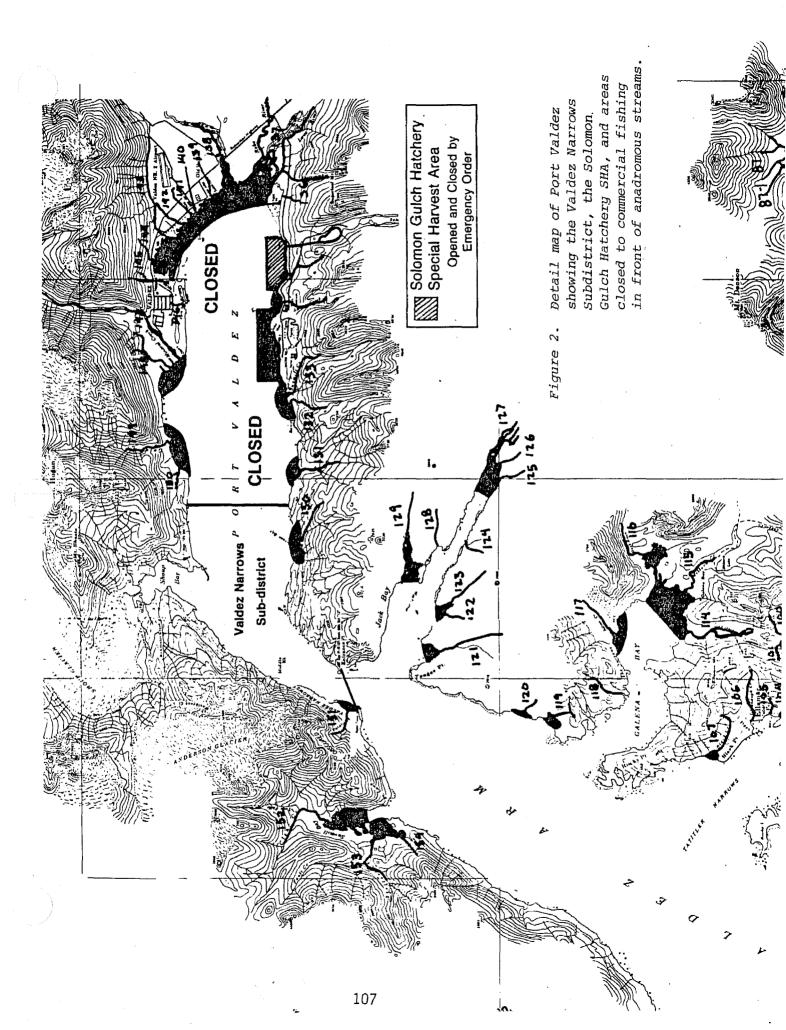
  The outside waters of the Main Bay Subdistrict will continue to be open for 7-days per week of fishing.
- f/ Only the Ester Hatchery secondary terminal harvest area in the southern portion of the Coghili District will be open for fishing, the remainder of the Coghill District will be closed until further notice.
- g/ The Main Bay Subdistrict will be closed effective 12:00 noon, July 5 and will remain closed until further notice.
- h/ The Solomon Gulch special harvest area will close at 1:00 p.m., July 6 and will not open until further notice.
- i/ Effective on 6:00 a.m., July 8 the Cannery Creek secondary terminal harvest area will be closed until further notice.
- j/ The Solomon Gulch special harvest area will be open to commercial fishing for 6-hours between 7:00 a.m. and 1:00 p.m. on July 10. The Solomon Gulch special harvest area will also reopen for the capture and sale of salmon by the hatchery operator after 12:00 noon, July 8. Approximately 120,000 additional fish may be harvested for revenues not to exceed \$100,000.
- k/ This opening only applies to the western half of the Solomon Gulch Hatchery special harvest area.
- 1/ The terminal harvest area at the Main Bay Hatchery will remain closed for the protection of brood stock.
- m/ The Cannery Creek Hatchery Management Area 3 is closed for fishing.
- n/ The outer portion of the Main Bay Subdistrict is open for the taking of salmon from noon, July 29 until further notice. The terminal harvest area at the Main Bay Hatchery will be closed for the protection of broodstock.
- o/ Effective at 6:00 a.m., August 4 until further notice, the Cannery Creek Hatchery Management Area 4 is closed. The waters inside the entrances to Jonah and Siwash bays will remain open for fishing.
- p/ The hatchery permit holder (P.W.S.A.C.) will be allowed to harvest salmon in the Ester Hatchery special harvest area for the purpose of generating sales revenues to assist in meeting their revenues goals fo \$1.6 million, as specified in the Armin F. Koernig Hatchery annual management plan.
- q/ There will be a 24-hour extension for fishing in the Ester Hatchery secondary terminal harvest area in the Coghill District.
- r/ The Main Bay Hatchery terminal harvest area will be open for fishing effective on moon, August 5.
- s/ The santuary waters of Lake and Quinllian bays in front of the Esther Hatchery open from 12:00 noon, August 11 until 9:00 p.m. August 14. The precise opening time will be announced a the hatchery by marine VHF radio on channel 7.
- t/ The Cannery Creek Hatchery Area 4 open for fishing on noon, August 13. However, Cannery Creek Area 3 will remain closed until further notice.
- u/ The commercial fishing time in the Port San Juan and the Point Elrington subdistricts will be extended an additional 57-hours this period. There will also be an opening in front of the Armin F. Koernig Hatchery from noon, August 15 until 6:00 p.m., August 17. All waters of Sawmill Bay will be open for fishing, except the normal 500 yard closures around anadromous streams in the bay and the waters inside a line of bouys approximately 25 feet outside of the AFK Hatchery barrier seine will be closed.
- v/ The Cannery Creek Hatchery Area 3 will open at 6:00 a.m., August 17, however the secondary terminal harvest area will remain closed.
- w/ At 6:00 a.m., August 19, the closed area in front of the Cannery Creek Hatchery will be reduced to the primary terminal harvest area.
- x/ The Cannery Creek Hatchery secondary terminal harvest area will close at 2:00 p.m., August 19 and remain closed until further notice.
- y/ The Cannery Creek Hatchery Area 3 will be closed effective 6:00 a.m., August 24.
- z/ The Cannery Creek Hatchery Area 3 will reopen at 6:00 a.m., August 31, however the secondary terminal harvest area will remain closed for protection of broodstock.
- aa/ The area in front of the Armin F. Koernig Hatchery is open for fishing for 3-hours on September 4. All waters of Sawmill Bay will be open, except for the normal 500 yard closures around anadromous streams in the bay and waters inside a line of bouys approximately 100 feet outside the AFK Hatchery barrier seine will be closed.

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Appendix Table F. Cordova District Tides, April 1 through September 30, 1987.



Prince William Sound Area commercial fishing districts and other sites of interest. Figure 1.



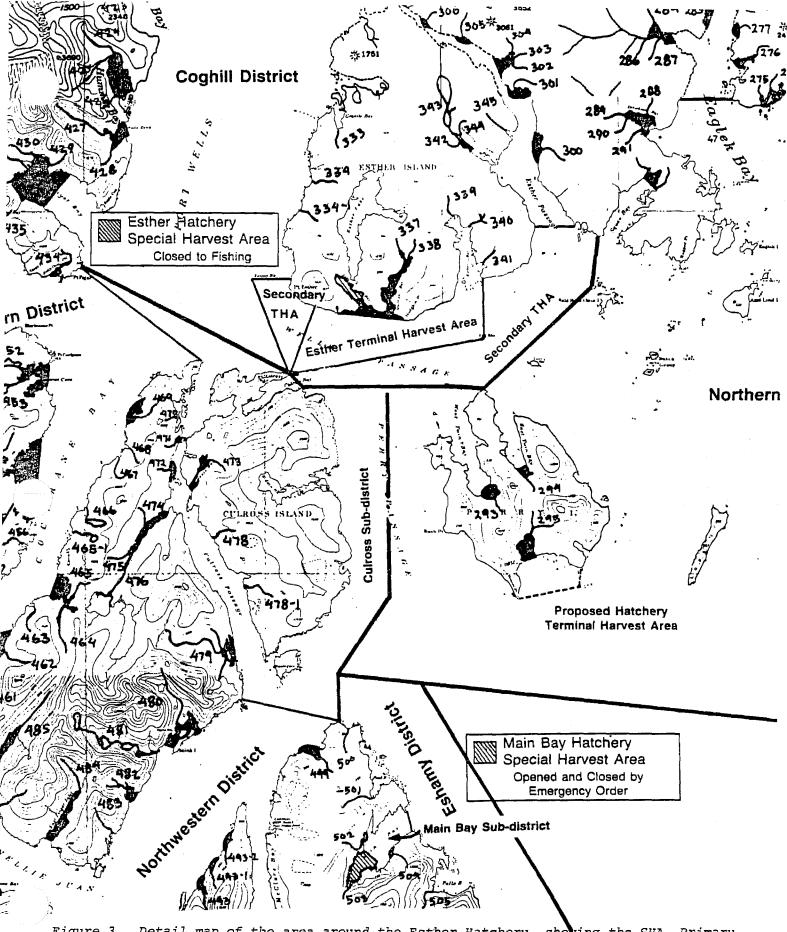
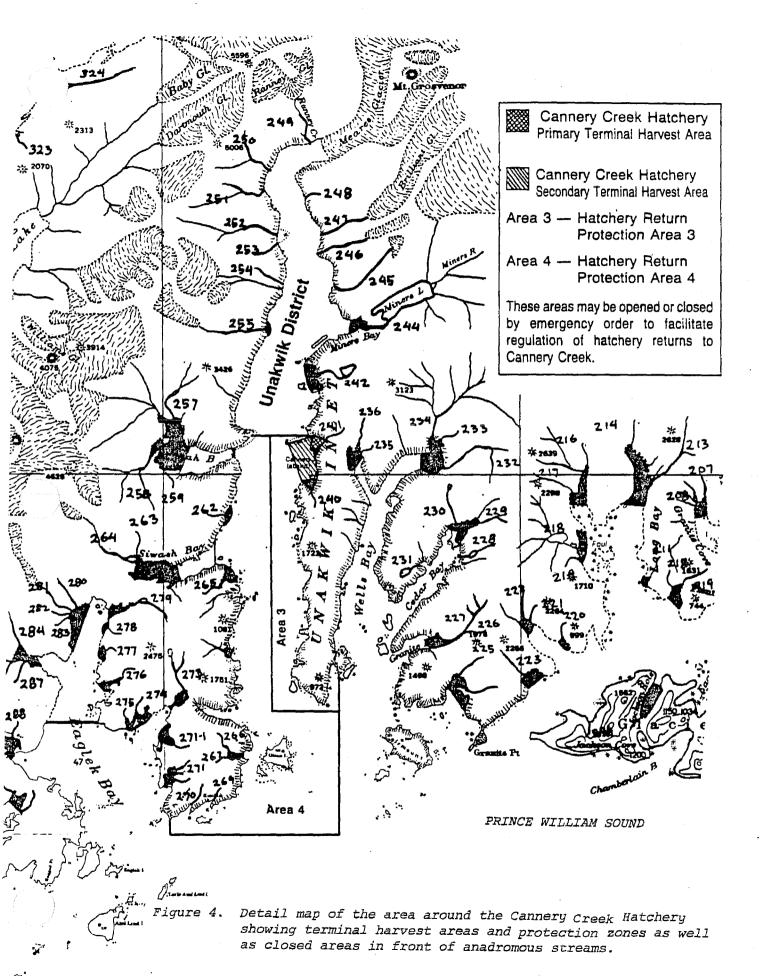


Figure 3. Detail map of the area around the Esther Hatchery, showing the SHA, Primary and Secondary Terminal Harvest Areas, and closed waters areas in front of anadromous streams.



## ALL SPECIES SALMON CATCH

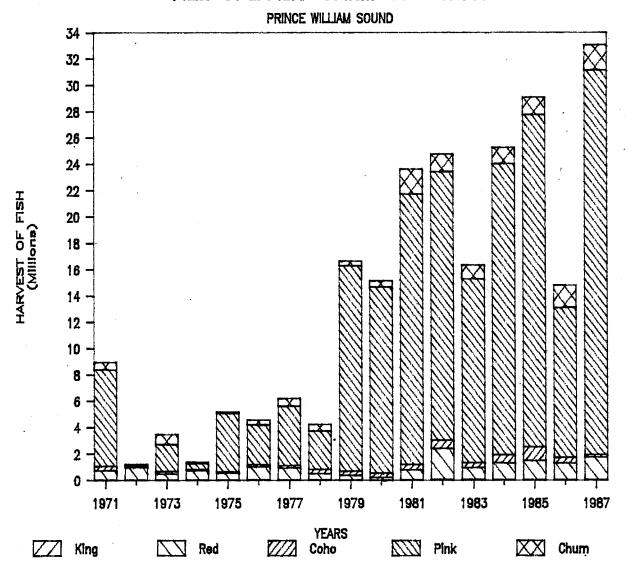
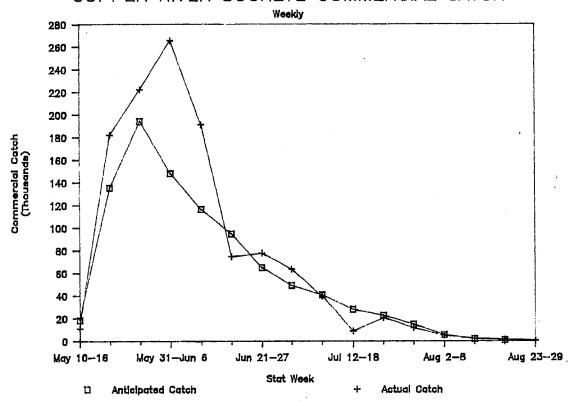


Figure 5. Commercial catch of all salmon species by gear types in the Prince William Sound Management Area, 1971 - 1987.

#### COPPER RIVER SOCKEYE COMMERCIAL CATCH





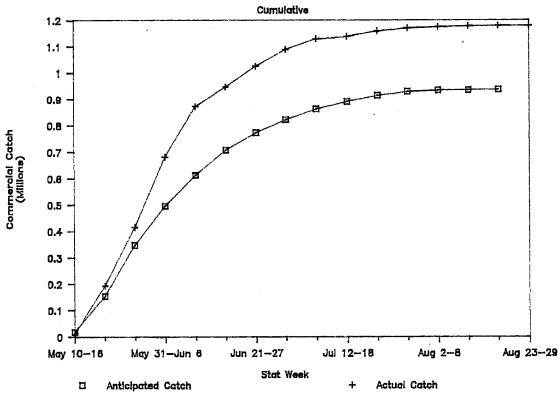
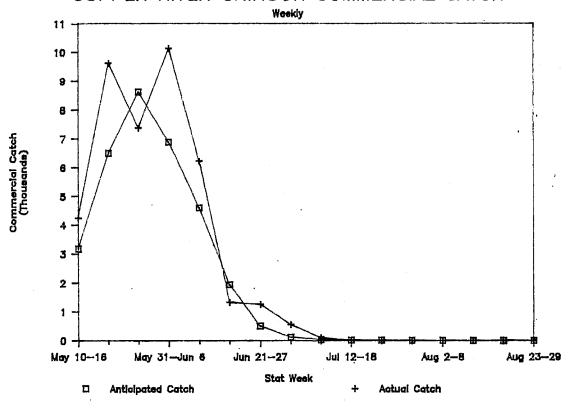


Figure 6. Anticipated and actual weekly and cumulative catches of sockeye salmon in the Copper River District drift gillnet fishery, 1987.

#### COPPER RIVER CHINOOK COMMERCIAL CATCH



#### COPPER RIVER CHINOOK COMMERCIAL CATCH

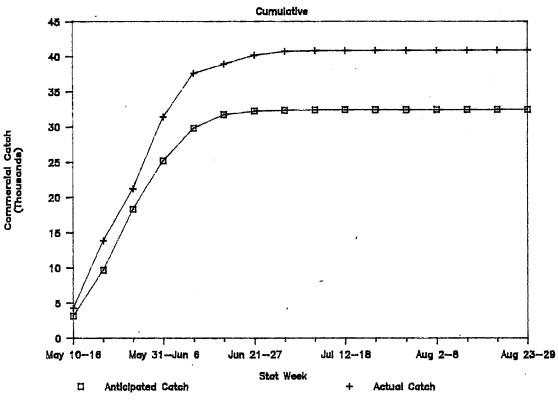
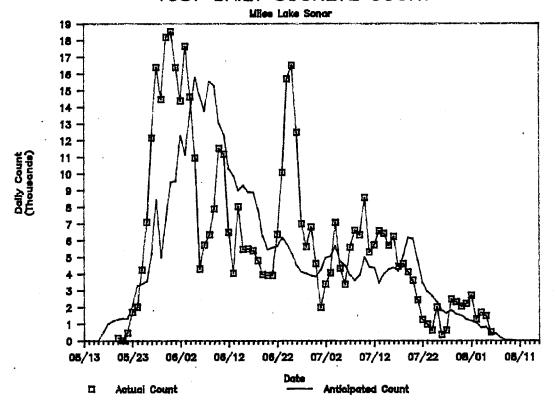


Figure 7. Anticipated and actual weekly and cumulative catches of chinook salmon in the Copper River District drift gillnet fishery, 1987.

#### 1987 DAILY SOCKEYE COUNT



### 1987 CUMULATIVE SOCKEYE COUNT

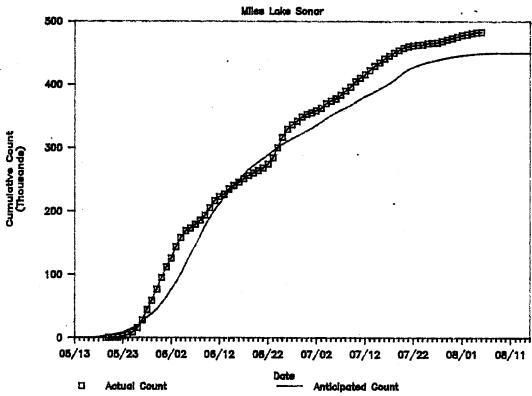


Figure 8. Anticipated and actual daily and cumulative escapement counts for salmon traveling past the Miles Lake Sonar Project en route to spawning sites on the Upper Copper River drainage, 1987.

# SOCKEYE CATCH and ESCAPEMENT,

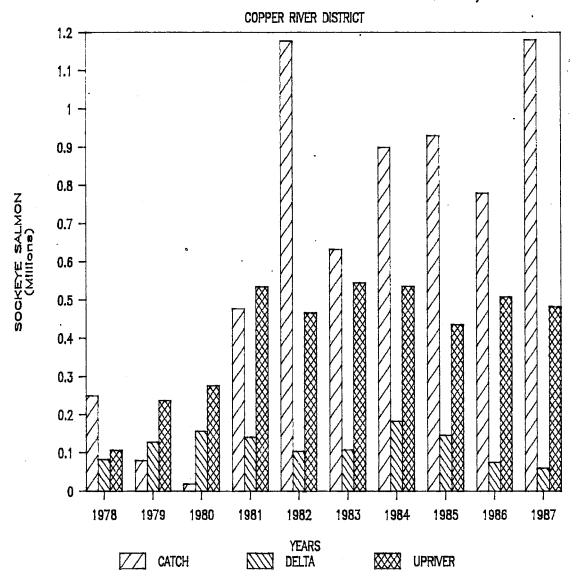


Figure 9. Sockeye salmon catch and escapement in the Copper River District, 1978 - 1987.

## CHINOOK CATCH and ESCAPEMENT,

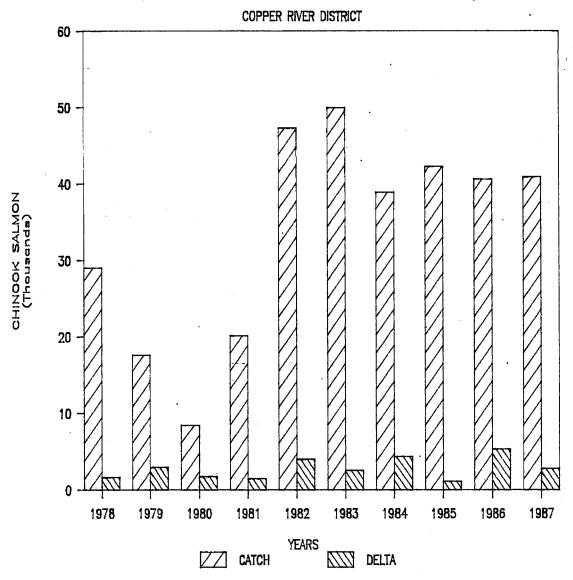
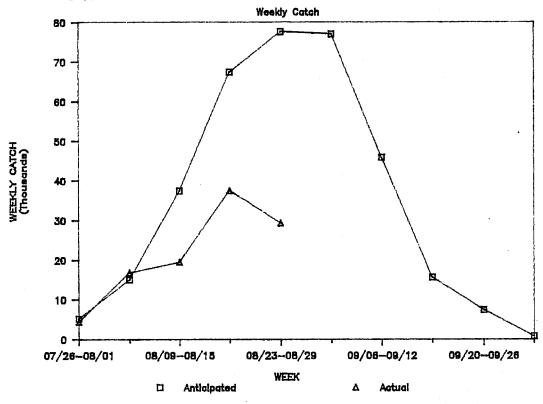


Figure 10. Chinook salmon catch and escapement in the Copper River District, 1978 - 1987.

#### COPPER RIVER DISTRICT COHO SALMON CATCH



#### COPPER RIVER DISTRICT COHO SALMON CATCH

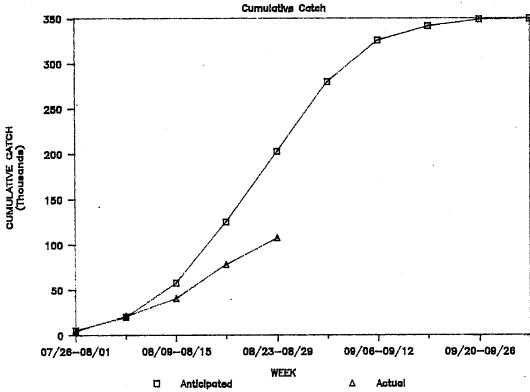


Figure 11. Anticipated and actual weekly and cumulative catches of coho salmon in the Copper River District drift gillnet fishery, 1987.

## COHO CATCH and ESCAPEMENT,

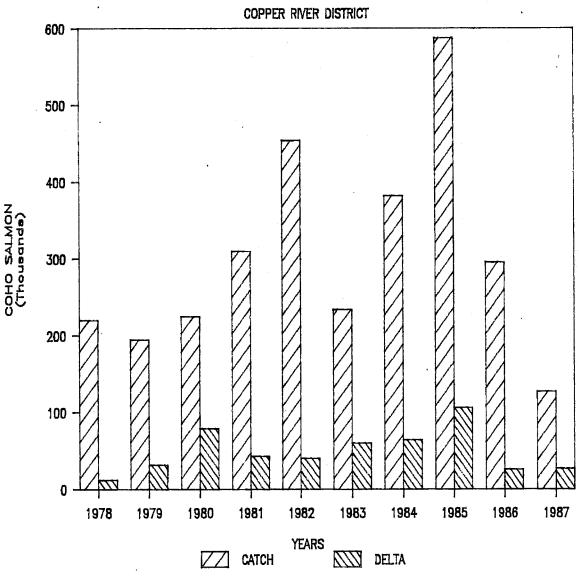


Figure 12. Coho salmon catch and escapement in the Copper River District, 1978 - 1987.

# SOCKEYE SALMON CATCH and ESCAPEMENT

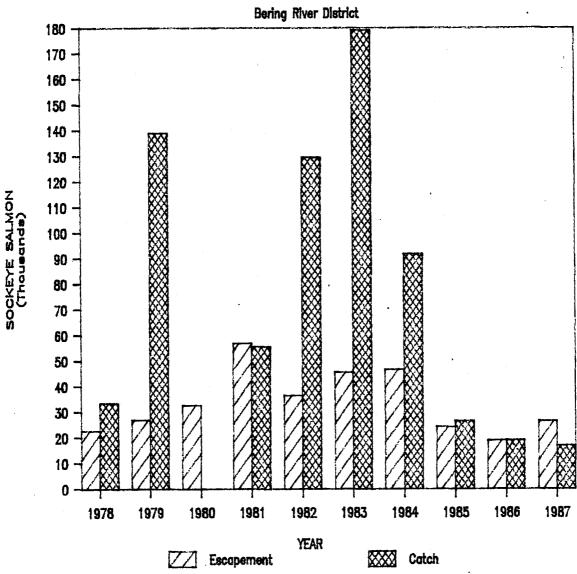
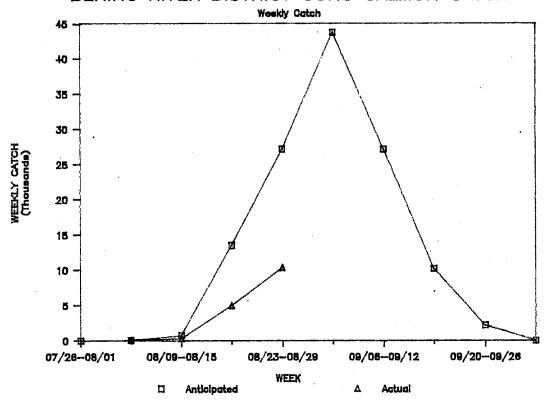


Figure 13. Sockeye salmon catch and escapement in the Bering River District, 1978 - 1987.

#### BERING RIVER DISTRICT COHO SALMON CATCH



#### BERING RIVER DISTRICT COHO SALMON CATCH

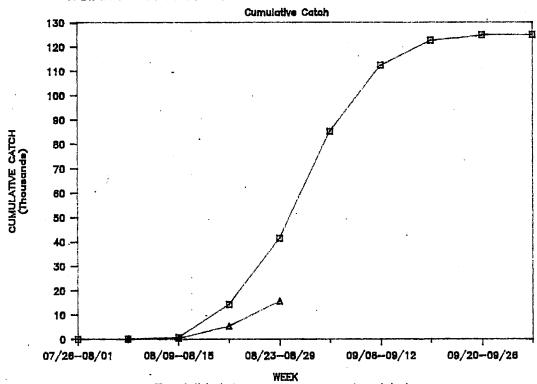


Figure 14. Anticipated and actual weekly and cumulative catches of coho salmon in the Bering River District drift gillnet fishery, 1987.

## COHO SALMON CATCH and ESCAPEMENT

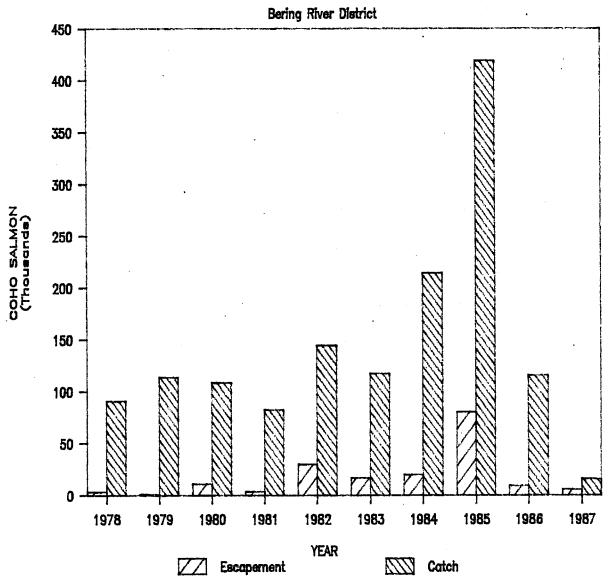
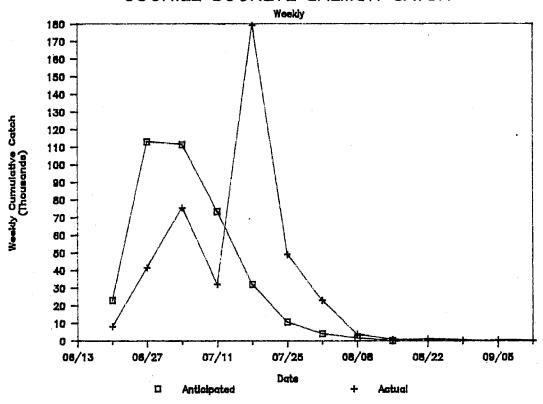


Figure 15. Coho salmon catch and escapement in the Bering River District, 1978 - 1987.

#### COGHILL SOCKEYE SALMON CATCH



#### COGHILL SOCKEYE SALMON CATCH

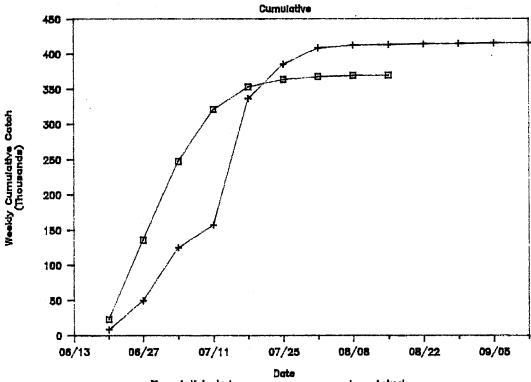
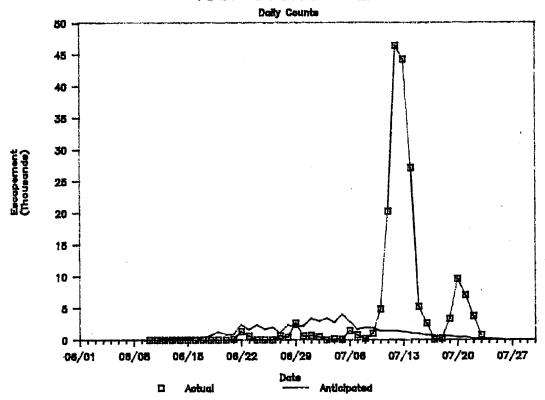


Figure 16. Anticipated weekly and cumulative catches of sockeye salmon in the Coghill District based on a projected harvest of 500,000 fish versus the actual weekly and cumulative catches, 1987.

#### 1987 COGHILL WEIR



#### COGHILL SOCKEYE SALMON ESCAPEMENT

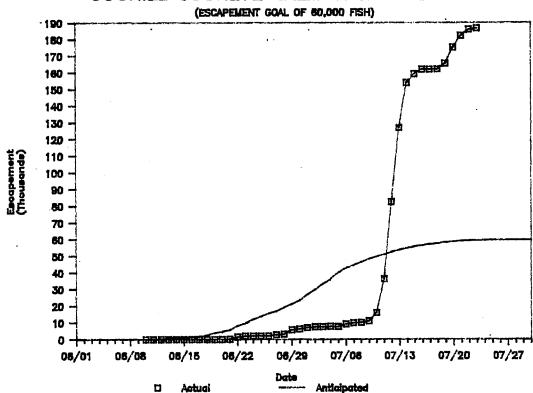


Figure 17. Anticipated daily and cumulative escapement of sockeye salmon through Coghill Weir based on a desired escapement of 50,000 fish versus the actual daily and cumulative escapement, 1987.

## SOCKEYE SALMON CATCH and ESCAPEMENT,

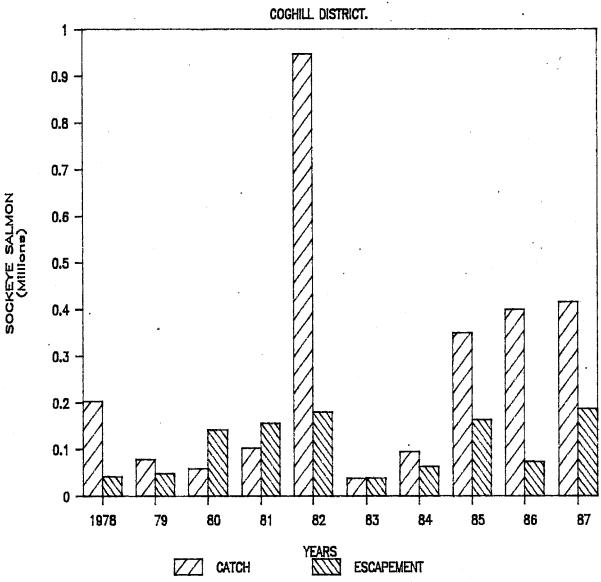


Figure 18. Sockeye salmon catch and escapement, Coghill District, 1978 - 1987.

## SOCKEYE SALMON CATCH & ESC.

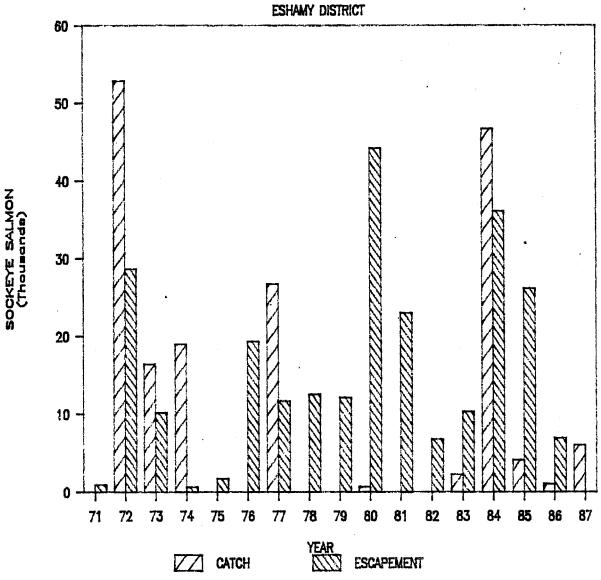
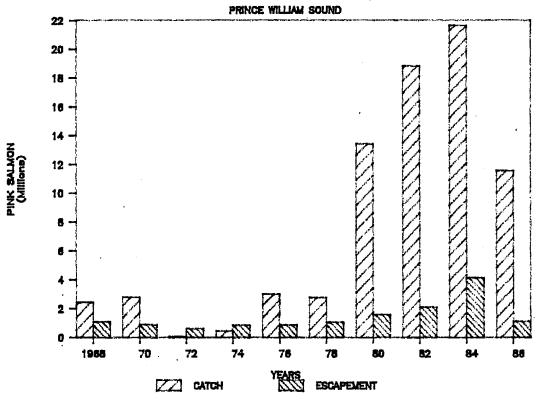


Figure 19. Sockeye salmon catch and escapement, Eshamy district, 1971 - 1987.

#### PINK SALMON CATCH and ESC., EVEN YEARS



### PINK SALMON CATCH and ESC., ODD YEARS

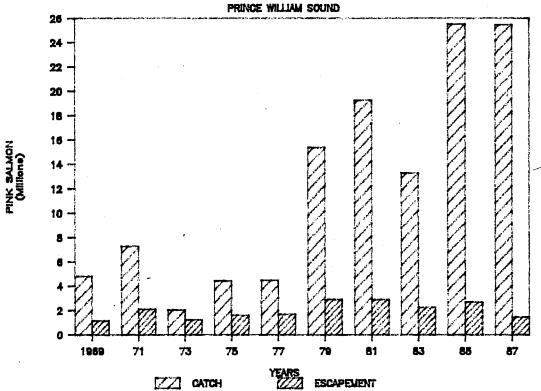


Figure 20. Pink salmon catch and escapement, even years (1968-1986) and odd years (1969-1987), Prince William Sound.

## CHUM SALMON CATCH AND ESCAPEMENT

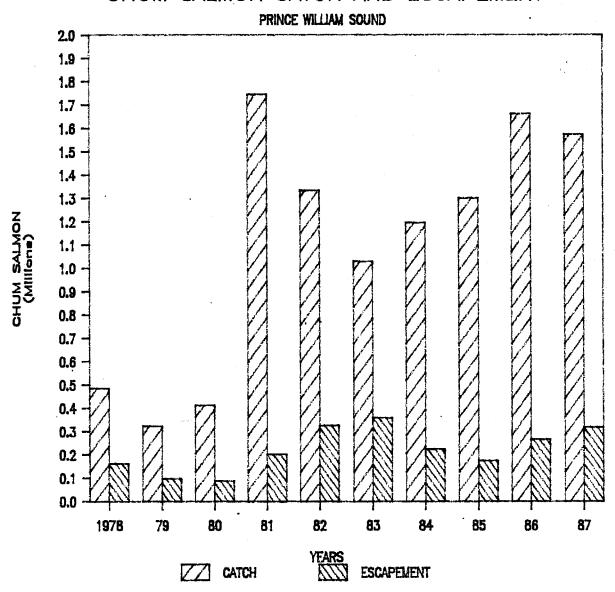


Figure 21. Chum salmon catch and escapement, Prince William Sound, 1978 - 1987.

# Hatchery and Wild Stock Pink Returns

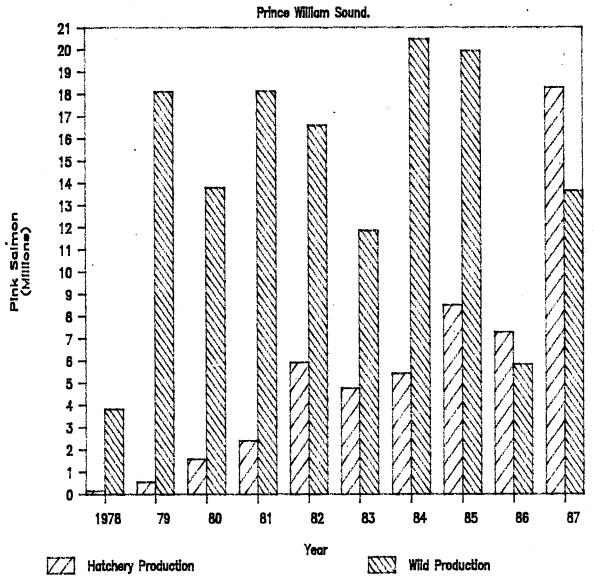
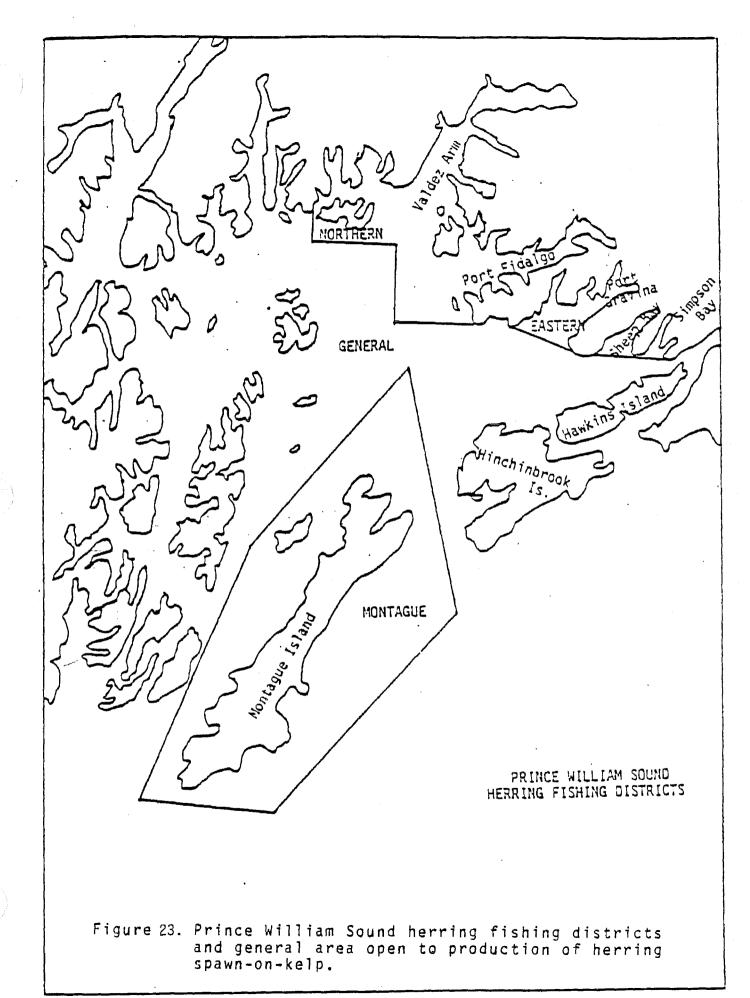


Figure 22. Estimated total returns of pink salmon to Prince William Sound area hatcheries and wild stock systems, 1978 - 1987.



## ALL FISHERIES HERRING HARVEST

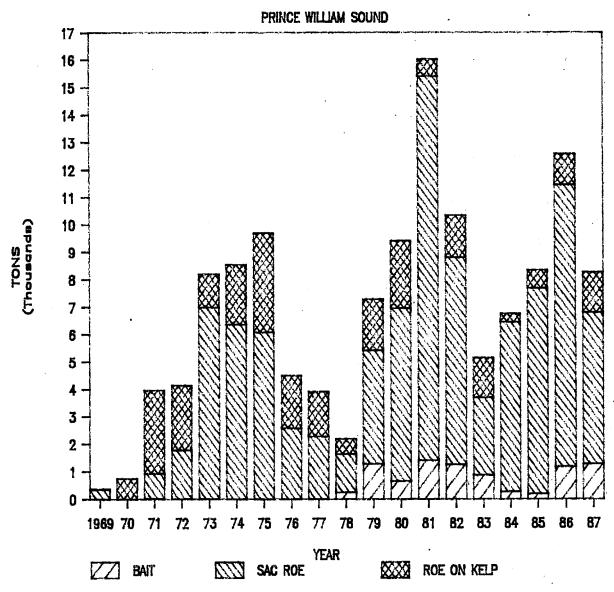


Figure 24. All fisheries herring harvest, Prince William Sound, 1969 - 1987.

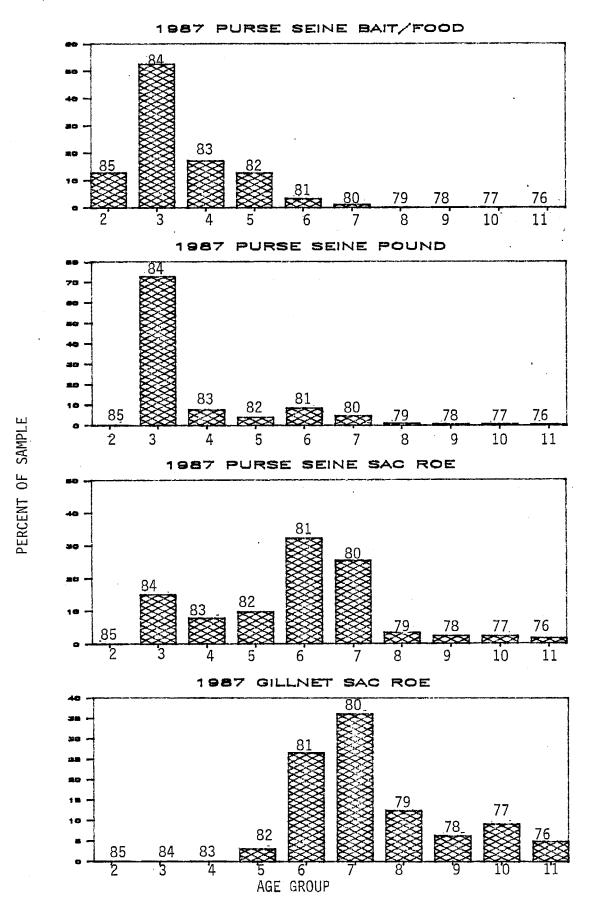


Figure 25. Estimated age composition of Prince William Sound herring by fishery, 1987.

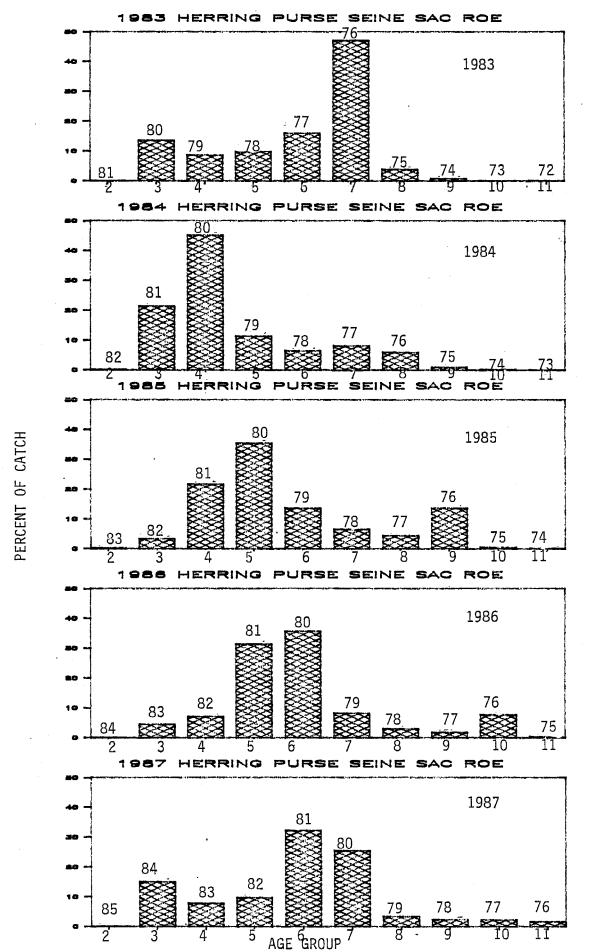
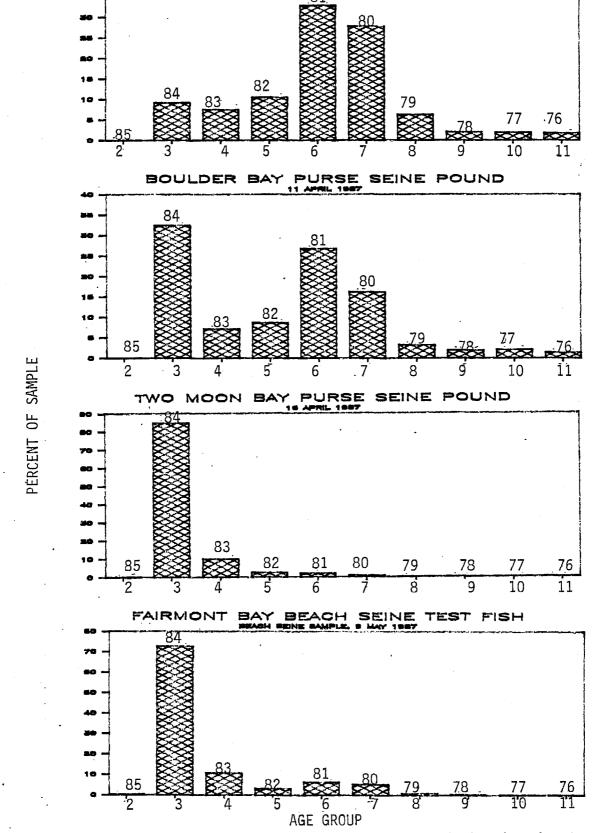


Figure 26. Prince William Sound herring sac roe seinefishery percent contribution by age class, 1983 - 1987.



FAIRMONT BAY BEACH SEINE TEST FISH

Figure 27. Estimated age composition of herring in beach seine test fish samples from important spawning areas and from pound purse seine fishery in Prince William Sound, 1987.

## BAIT HERRING HARVEST,

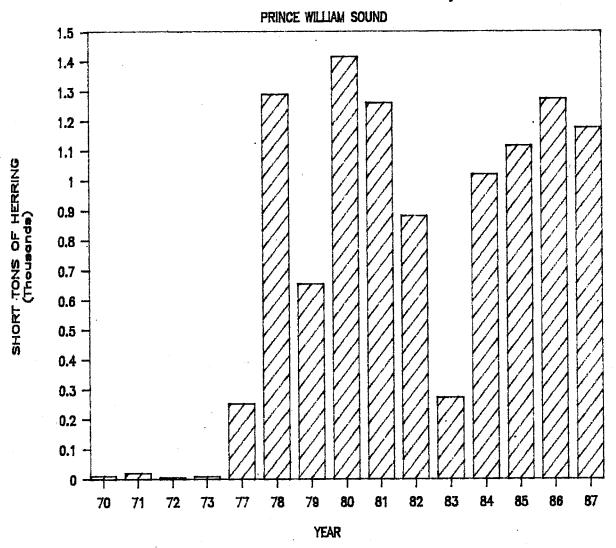


Figure 28. Bait herring harvest, Prince William Sound, 1970 - 1987.

### ROE HARVEST & PEAK AERIAL ESTIMATE

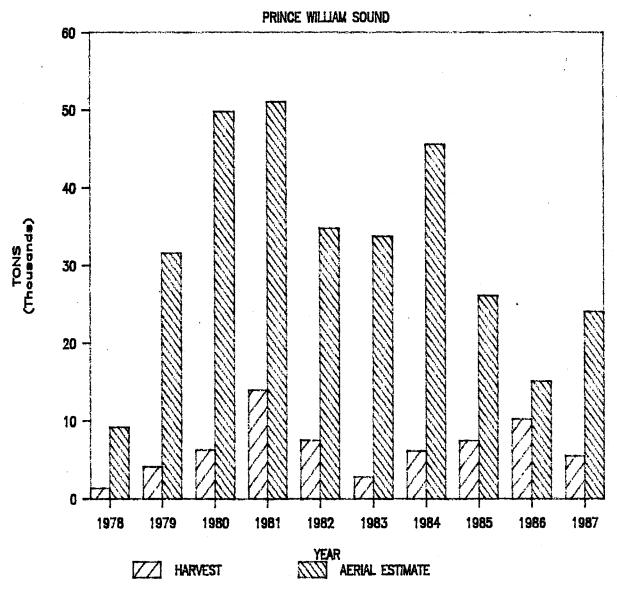
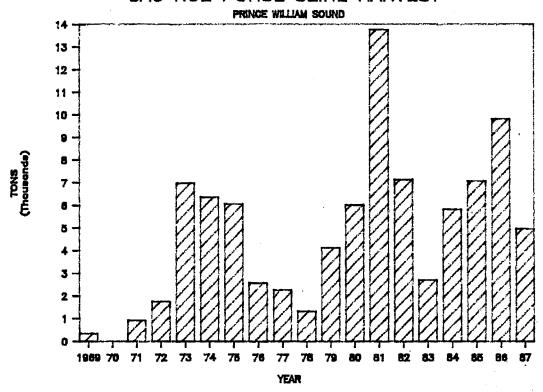


Figure 29. Sac roe harvest and peak aerial estimate, Prince William Sound, 1978 - 1987.

#### SAC ROE PURSE SEINE HARVEST



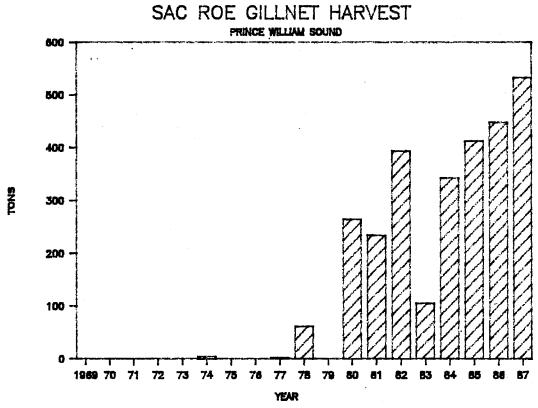


Figure 30. Herring sac roe purse seine and gillnet harvests, Prince William Sound, 1969 - 1987.

## HERRING SPAWN ON KELP HARVEST

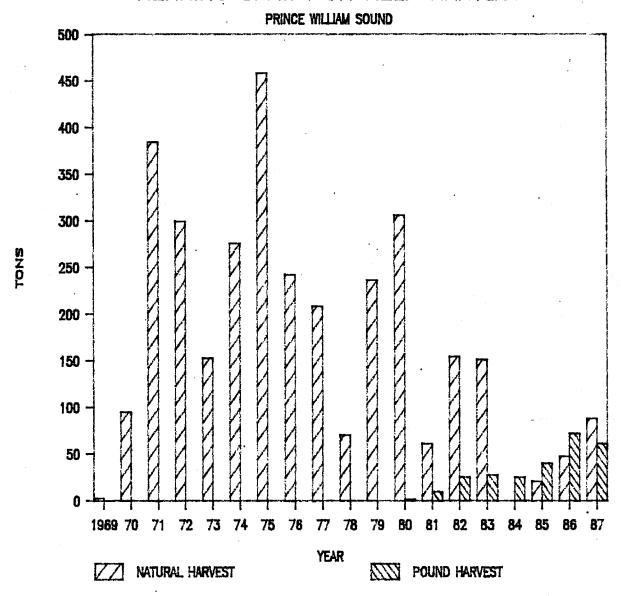


Figure 31. Herring spawn on kelp harvest, Prince William Sound, 1969 - 1987.

